Pacific
Salmon
Commission

PACIFIC SALMON COMMISSION

2008/2009
Twenty Fourth Annual
Report

Pacific Salmon Commission

Established by Treaty between Canada and the United States March 18, 1985 for the conservation, management and optimum production of Pacific salmon

Twenty Fourth Annual Report 2008/2009

Vancouver, B.C.
Canada

May 2013

PACIFIC SALMON COMMISSION

ESTABLISHED BY TREATY BETWEEN CANADA
AND THE UNITED STATES OF AMERICA
MARCH 18, 1985

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Letter of Transmittal

In compliance with Article II, Paragraph 14 of the Treaty between the Government of Canada and the Government of the United States of America concerning Pacific salmon, it is my pleasure as Chair of the Pacific Salmon Commission to present my compliments to the Parties and to transmit herewith the Twenty Fourth Annual Report of the Commission.

This report summarizes the activities of the Commission for the fiscal year April 1, 2008 to March 31, 2009. It includes reports on the results of the 2008 fishing season presented by the Parties and on meetings of the Commission and the Standing Committee on Finance and Administration. Also included are the annual reports of the Northern and Southern Fund Committees. Executive summaries of documents prepared by Pacific Salmon Commission staff and the joint technical committees during the period covered by this report are also presented.

A summary of the agreement is available on the PSC website: www.psc.org.

The Auditors' report on financial activities of the Commission during the fiscal year April 1, 2008 to March 31, 2009, approved by the Commission, is also included in this report.

Yours Truly,

Susan Farlinger

for Mr. Paul Sprout
Chair

PACIFIC SALMON COMMISSION

OFFICERS for 2008/2009

Chair	Mr. Paul Sprout
Vice-Chair	Mr. David Bedford

COMMISSIONERS

Canada	United States
Mr. Ron Fowler	Dr. Jeffrey Koenings
Mr. Gerry Kristianson	Mr. Olney Patt Jr.
Mr. Saul Terry	Mr. Larry Rutter
Mr. Garnet Jones	Mr. Ron Allen
Mr. Russ Jones	Mr. James E. Bacon
Mr. Paul Kariya	Mr. Roy Elicker
Mr. Paul Macgillivray	Mr. John Field

SECRETARIAT STAFF

Executive Secretary	Mr. Don Kowal
Administrative Officer	Mr. Ken Medlock
Chief Biologist	Mr. Mike Lapointe

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INTRODUCTION

Since the early 20th century, Canada and the United States have discussed and collaborated on Pacific salmon conservation and management. Interception of Pacific salmon bound for rivers of one country in fisheries of the other has been a particularly important issue over the years. Scientific research identified a number of intercepting fisheries on species and stocks originating from Alaska, British Columbia, Washington, Oregon and Idaho. This research indicated that Alaskan fishers were catching some of the salmon bound for British Columbia, Idaho, Oregon and Washington. Canadian fishers off the West Coast of Vancouver Island were capturing some of the salmon bound for rivers of Washington and Oregon, while fishers in northern British Columbia were intercepting certain fish returning to Alaska, Washington, Oregon and Idaho.U.S. fishers were catching Fraser River salmon as they traveled through the Strait of Juan de Fuca and the San Juan Islands towards the Fraser River.

Cooperative management of stocks subject to interception became a matter of common concern to Canada and the United States, and governments desired a mechanism to enable each country to reap the benefits of its respective management and enhancement efforts. That mechanism is now provided through the *Treaty Between the Government of Canada and the Government of the United States of American Concerning Pacific Salmon* (hereafter the "Pacific Salmon Treaty" or "the Treaty"), which entered into force upon the exchange of instruments of ratification by the President of the United States of America and the Prime Minister of Canada on March 18, 1985.

The treaty, *inter alia*, established a) a bilateral fishery management organization known as the Pacific Salmon Commission (the Commission), and b) bilateral fishery management regimes for conservation and harvest sharing of salmon stocks. Each country (Party) retains jurisdictional management authority but must manage its fisheries in a manner consistent with the provisions of the Treaty. The Treaty is intended to enable bilateral conservation and enhancement to prevent overfishing, increase production, and ensure that each country receives benefits equivalent to its own salmon production. The Commission also serves as a forum for consultation between the Parties on their salmonid enhancement operations and research programs.

The Commission comprises four Commissioners (and alternates) from each country as the principle deliberative body. The Commission has also established numerous subsidiary committees, and four geographically oriented panels. The Panels report to the Commission and provide advice on the conservation and management of selected stocks of concern, with certain exceptions as noted below:

> Transboundary Panel: stocks originating from the Alsek, Stikine and Taku River systems.
>
> Northern Panel: stocks originating in rivers situated between Cape Suckling in Alaska and Cape Caution in British Columbia.
>
> Southern Panel: stocks originating in rivers located south of Cape Caution, other than Fraser River sockeye and pink salmon.
>
> Fraser River Panel: has special in-season regulatory responsibilities for stocks of sockeye and pink salmon originating from the Fraser River.
>
> Yukon River Panel: makes recommendations to authorities in Alaska and the

Canadian government concerning the conservation and coordinated management of salmon originating in the Yukon River in Canada, but does not report to the Commission.

The panels review annual post-season reports, annual pre-season fishing plans and ongoing and planned salmonid enhancement programs of each country. They also provide recommendations to the Commission for development of fishery regimes in accordance with the objectives of the Treaty. These regimes, once adopted by the Commission and accepted by the Parties, are implemented by the relevant fishery management agencies in each country.

The Parties accord the Fraser River Panel special responsibility for in-season regulation of Fraser River sockeye and pink fisheries of Canada and the United States in southern British Columbia and northern Puget Sound, in an area designated as Fraser River Panel Area Waters. Scientific and technical work is conducted for the Panel by the Fishery Management Division of the Commission's Secretariat staff.

With long-term fishery arrangements in place through periodic amendment of the Treaty, the meeting agendas for the Commission have concentrated on implementation that will improve fisheries management and aid the countries' efforts to recover weakened stocks. These provisions include establishment of two bilaterally-managed restoration and enhancement funds, provisions to enhance bilateral cooperation, and improvements to the scientific basis for salmon management.

The Commission generally meets three times annually and conducts its business between meetings through its permanent Secretariat located in Vancouver, British Columbia. In the period April 1, 2008 to March 31, 2009, the Commission met on three occasions:

1. Commission Fall Meeting
   October 21-23, 2008 – Victoria, B.C.

2. Post-Season Meeting of the Commission and Panels
   January 12-16, 2009 – Vancouver, B.C.

3. 24th Annual Meeting of the Commission
   February 9-13, 2009 – Portland, Oregon

This, the Twenty-Fourth Annual Report of the Pacific Salmon Commission, provides a synopsis of the activities of the Commission and its subsidiary bodies during its Twenty-fourth fiscal year of operation, April 1, 2008 to March 31, 2009.

Activities of the Commission

PART I
ACTIVITIES OF THE COMMISSION

A. EXECUTIVE SESSION OF THE PACIFIC SALMON COMMISSION
October 21-23, 2008, Victoria, B.C.

The Commission met three times in executive session during the meeting.

The Commission heard an update about the status of the Northern and Southern Endowment Funds and the effects of the volatile worldwide economic situation. As of October 21st 2008 the combined value of the Funds was $137 million U.S. As per the terms of the 1999 Agreement, the Fund Committees could not spend any money on projects once the combined Fund fell below the value of the original contribution, which was approximately $140 million U.S.

The Commission discussed initial steps needed to implement the Chinook Sentinel Stocks Program, including making decisions about the selection of Sentinel Stocks Committee members, about who the Committee would report to, and about how the program would be funded.

The Commission received a status report from Mr. John Carlile and Dr. Rick McNicol, Chinook Technical Committee (CTC) co-chairs, about assignments and tasks relating to the implementation of the new Chinook Chapter.

The Commission discussed a process to renew the Fraser River Chapter and to develop guidance and instructions for the Fraser River Panel. The Commission adopted a proposal entitled "Bilateral Instructions to the Fraser River Panel for Renewing Chapter 4 of Annex IV".

The Commission discussed reviewing and updating the PSC bylaws to ensure that the PSC process is made as open and transparent as possible in order to meet the needs of both the Commission and the public. A bilateral group of Commissioners was instructed to examine the bylaws and to bring recommendations to the Commission for discussion in January.

The Commission discussed the future role and direction of the Chinook Interface Group (CIG). The Commission agreed that CIG would continue to act as an interface between the CTC and the Commission. The CIG's terms of reference would be revisited at a future date.

The Commission accepted the workplans and reports of the Panels and Committees and adopted instructions to the Panels and Committees.

The list of officers for 2008/2009 was tabled.

B. MEETING OF THE COMMISSION AND PANELS
January 12-16, 2009, Vancouver, B.C.

The Commission met once in Executive session and twice in open session during this meeting period.

The Commission acknowledged the renewal of five of the Chapters of Annex IV of the Pacific Salmon Treaty. The negotiation of the Chapters was successfully completed with the exchange of diplomatic notes on December 23, 2008. The new provisions of the Treaty came into force on January 1, 2009.

The Commission heard a progress report from the Sentinel Stocks Committee (SSC). The Commission discussed the specific geographic area where Sentinel Stock projects could be funded. It was agreed that the SSC would refer questions about defining geographical boundaries for the Sentinel Stocks Program to the Commission for consideration.

The Chairs of the Fraser River Panel reported on work done to date in moving towards the renewal of the Fraser River Chapter. The Commission was encouraged by the progress made by the Panel to date.

Executive Secretary Kowal provided an update on behalf of the committee revising the Commission's operating procedures and processes. A final draft of the revised operating procedures was prepared and distributed to the Parties. Each Party would review the document and provide comments at the February session.

The Parties tabled their post season reports.

The Commission discussed the implementation of the Coded Wire Tag Improvement Program. During the negotiation of the renewed Chinook Chapter, the Commission acknowledged that the CWT Program, the scientific foundation upon which it conducts its business, had eroded and was in need of additional money and support. Through the agreement, the Commission committed to provide $7.5 million over a five-year period to improve the CWT program. The U.S. Section presented a proposal for implementing critical improvements to the Chinook Coded-Wire-Tag Program. Canada would provide a response to the proposal at the February session.

C. PACIFIC SALMON COMMISSION ANNUAL MEETING
February 9-13, 2009, Portland, Oregon

Three sittings were held during this meeting period.

Mr. Saul Terry was introduced as the newly appointed Canadian Commissioner.

Canada presented its response to the U.S. Proposal for Implementing Critical Improvements to the Chinook Coded-Wire-Tag Program tabled in January. The Commission discussed the proposal and agreed on a process to proceed.

The Commission discussed and accepted revised operating procedures (bylaws) and agreed that they would be posted on the PSC website.

The Commission received annual reports from the Committee on Scientific Cooperation and the Finance and Administration Committee. The Commission accepted the reports.

Mr. Angus MacKay, Endowment Fund Committee Coordinator, presented the Annual Report of the Southern Boundary Restoration and Enhancement Fund and the Northern Boundary and Transboundary Rivers Restoration and Enhancement Fund.

Mr. Chuck Parken and Dr. Marianna Alexandersdottir, co-chairs of the Sentinel Stocks Committee (SSC) presented a Sentinel Stocks Program progress report. The SSC planned to meet in March to review SSP proposals based on criteria contained in a paper entitled "Sentinel Stock Program Second-Stage Proposal Evaluation, February 2009". After the review, the Committee would provide a list of recommended projects to the Commission for its approval. The Commission was supportive of the criteria that the SSC would use to evaluate the proposals.

Dr. Koenings provided an update on the work of the Ad Hoc Habitat Scoping Committee. He presented a paper that included recommendations for establishing a Habitat and Restoration Technical Committee. The Commission discussed the paper and agreed to move forward by asking a small group of habitat experts from the U.S. and Canada to help the Ad Hoc Habitat Scoping Committee in the endeavor. The technical experts would develop concrete steps for the Commission to follow. The topic would come back to the Commission for discussion at the October session.

The Commission accepted new Terms of Reference for the Chinook Interface Group. The Terms of Reference included sections on the background, purpose, membership, and meetings of the CIG.

The Commission received a report from the Selective Fisheries Evaluation Committee (SFEC). The Committee expressed concern that it was not receiving post-season Mark Selective Fishery (MSF) reports from the agencies. SFEC was modifying formats and simplifying the reporting process to try to encourage agency responses.

The Commission received progress reports on the workplans of the Southern, Northern, Transboundary and Fraser River Panels.

Activities of the Standing Committees

PART II
ACTIVITIES OF THE STANDING COMMITTEES

A. MEETINGS OF THE STANDING COMMITTEE ON FINANCE AND ADMINISTRATION

1. Committee Activities

The Committee met on January 12, 2009 in Vancouver BC and February 10 and 12, 2009 in Portland OR, to consider a range of financial and administrative issues. The Committee's deliberations focused on the budget forecast for FY 2009/2010.

The Committee approved the Commission budget at the contribution level of C$1,747,510, per party (Appendix D) with expenditures of C$3,831,332. This represents an increased contribution per party over last year of $18,357. The Committee recommended acceptance of this budget which excludes any test fishing program costs, which traditionally have been reported separately by staff.

The test fishing program was also discussed. Due to ongoing funding concerns as a result of the "Laroque" decision finalization of the program will be delayed until March. The Committee has approved the use of the 2007 – 2008 Revolving Test Fish Surplus of $44,083.20 to offset the costs of the test fishing program in 2009/2010.

The Committee also reviewed staff projections of expenditures for the balance of the current fiscal year. The staff reported a forecast carry-over of C$318,312 to next year. It was therefore recommended that the carryover from 2008/2009 be carried to fiscal 2009/2010 to offset costs of programs initiated in this fiscal year.

The Committee reviewed the PSC Meeting Schedule. Canada requested that staff review locations for the October 2010 Executive Session. Possible locations include Sun Peaks, Nanaimo and Victoria. Sun Peaks would be the preferred location providing costs are comparable to the other locations.

The Committee authorized the temporary use of the Working Capital Fund to facilitate meeting arrangements for the Sentinel Stock Committee pending funding arrangements being finalized by the Parties. The Working Capital Fund will be reimbursed for the funds used once the Party funding is in place.

2. Secretariat Staffing Activities

A list of Secretariat staff employees as of March 31, 2009 is presented in Appendix E.

An updated membership list for panels, standing committees, joint technical committees and ad hoc working groups as of March 31, 2009 is presented in Appendix F.

B. MEETINGS OF THE STANDING COMMITTEE ON SCIENTIFIC COOPERATION

During 2008, the Committee for Scientific Cooperation (CSC) focused on reviewing the results of several years of research on the early entry and subsequent mortality of late-run sockeye stocks in the Fraser River. The Committee planned to summarize their views on the results of this research and recommend future directions and/or management action, if required, to the Pacific Salmon Commission.

Identification of this phenomena and dire predictions of future run failures led the PSC, various member organizations, private and public groups and others to study the runs, ascertain the magnitude of the problem, attempt to determine the reasons for this change and recommend what, if anything could be done to manage the situation. The CSC sponsored several workshops to assist in the direction and coordination of the studies.

C. MEETINGS OF THE NORTHERN AND SOUTHERN FUND COMMITTEES

The Northern and Southern Fund Committees have agreed that given the congruent nature of their agendas and their decision to combine the funds into a single master account for investment management purposes, and the efficiencies involved with respect to interaction with the fund managers, it was appropriate to meet together as a Joint Fund Committee at least once annually. Thus in 2008 the Joint Fund Committee held one in-person meeting with all Committee members in attendance on November 13th and 14th, 2008.

The meeting was held at the PSC offices in Vancouver, BC and as usual the November agenda included the annual Fund investment manager performance reports and interviews. Hewitt and Associates staff provided an introduction to, and review and analysis of, the performance review and manager evaluations. They also provided the third quarter report. LSV Asset Management made the point that their mixed performance of late did not mean that their overall process is flawed and the Committee was generally satisfied with that explanation. The Committee was generally satisfied with Barclays Global Investors who despite underperforming for six consecutive quarters to the end of 2007 had outperformed in the first half of 2008 and who by reducing their exposure to financials late in 2007 had helped mitigate the worst effects of the liquidity crisis. The Committee was concerned with the poor performance of Brandes Investment Partners in 2008. There was disappointment that better down market protection was not realized given Brandes's value bias. However there was some optimism that the current market conditions would favour Brandes's style in the future.

Mr. Chris Kautzky also presented a Spending Policy and Asset Allocation review. This was a follow up to discussions held in 2006 and 2007 regarding the efficacy of the asset allocation strategy and its impact on the spending policies. The review provided an analysis of the current and alternative allocation strategies in conjunction with the current and alternative spending policies. The current asset allocation strategy and Northern and Southern spending policies have been in place since 2000.

Similar to the 2007 spending pattern, in 2008 the Southern Fund invested almost two thirds of its projects budget, $2.6M US, in 30 Improved Information projects. For a second year the single largest grant was a $323K investment in a collaborative feasibility study into the development of a fishwheel-based live capture and tagging facility for Fraser River sockeye and other species near Mission. Forward-looking research projects into emerging genetic stock identification (GSI) techniques were awarded significant grants in 2008 with eight projects in BC, WA, and ID receiving $1.06M between them. Other GSI-based projects were awarded grants to support stock identification work that will improve stock and fishery specific objectives through the shaping of fisheries. Further Improved Information grants were made to Fraser River hydroacoustic research; to on-going habitat-based Chinook escapement goal calibration work and improvements to coded-wire tag (CWT) programs. Allocating $820K US in 2008, the Southern Fund continued to sponsor Georgia Basin coho habitat restoration projects on the east coast of Vancouver Island, the BC Interior, the lower Fraser and in the Nooksack Basin. Early marine survival and production studies of Chinook salmon in the Strait of Georgia and Puget Sound attracted the largest grants (av. $107K US) in the Habitat category. Enhancement is typically the smallest of the three investment areas but saw an increase in grant funding in 2008 with interesting projects including deterring seal predation through the use of electrical barriers and the management of invasive piscivorous fish species affecting sockeye stocks in BC.

The Northern Fund Committee awarded grants of $5.52M US in 2008 with 55% of that money being directed towards Improved Information projects. This is consistent with last year's spending in this category (60%) and indicative of a trend in the Northern Fund that has seen major investments made in filling the gaps in stock assessment and stock identification work in these large and remote watersheds, with less being spent on habitat restoration because a much greater proportion of the region encompasses watersheds not yet subject to the pressures of human activity found in the south. Thus the Northern Fund continued to support population estimates, mark recapture programs, radio telemetry feasibility studies and coded-wire tag programs on the Stikine, Nass and Skeena rivers in BC and the Chickamin and Chilkat rivers in Alaska. Grants were again made to on-going northern BC and SEAK sockeye and chinook genetic stock ID studies, baseline expansions and stock composition estimates. The habitat portfolio, usually the smallest investment area for the Northern Fund, saw a substantial increase in funding in 2008 up by 70% from $370K in 2007 to $1.2M in 2008. Almost all of this increase ($700K) can be attributed to two major off-channel projects. The first was the construction phase of an on-going 3 year effort to improve and extend the chum salmon spawning channels at Fish Creek near Hyder, Alaska. The second was a significant back channel rehabilitation project at Exchamsiks River, a tributary to the Skeena River west of Terrace, BC. Investments in enhancement projects in the north are generally larger than those in habitat restoration, but in 2008 the two investment areas were close with $1.25M being invested in enhancement, up by a quarter million over 2007. All enhancement funds were directed towards projects in northern and central coastal areas of BC and in Canadian transboundary watersheds, many of which are multi-year Northern Fund investments. Chinook and chum were the species of interest at the Snootli and McLoughlin hatcheries on the central coast and sockeye the focus of on-going enhancement programs at Lakelse Lake and the hanging lakes around Hartley Bay. In the transboundary, Trapper Lake sockeye enhancement and access improvements were supported for a fifth year and a fifth year of investment was made in support of Tuya River sockeye harvest infrastructure development that included dramatic in-river blasting operations this year.

The Northern and Southern Fund Committees approved motions to support a new "Chinook Sentinel Stocks Program" with funds in the amount of $1M US per Fund each year for a period of 5 years beginning in 2009. It is understood that this annual commitment will depend on fund performance given that the guarantee of interest income on the endowment fund in any given year is not assured.

A list of all 2006/07 Northern and Southern Fund projects can be found in Appendices A and B.

For the year, very weak equity markets in 2008 resulted in negative numbers across the board for the Fund and the benchmarks, now extending out to the four-year mark. Brandes, and to a much lesser degree LSV, were the source of the Fund's underperformance in 2008 although this improved in the fourth quarter. Rebalancing the asset mix helped to offset the manager performance but only partially. By year's end the Fund Committees had considered the prospect that due to the global economic crisis the issuance of project grants in 2009 might not be possible.

For the U.S., Mr. Larry Peck was appointed to the Southern Fund Committee, replacing Mr. Rollie Rousseau.

For Canada, Mr. Don Radford was appointed to the Southern Fund Committee, replacing Mr. Wilf Luedke. Also Ms Lorelei Smith completed her term with the Northern Fund Committee in December.

Activities of the Panels

PART III
ACTIVITIES OF THE PANELS

A. FRASER RIVER PANEL

The Fraser River Panel completed the 2008 fishery management plan for Fraser River sockeye salmon in Panel Area waters on June 12, 2008. The Panel carried out its in-season fishery management responsibilities as per Annex IV, Chapter 4 and the February 15, 2008 Commission Guidance to the Fraser River Panel. Commission staff conducted its regular in-season assessment programs and reported results to the Panel.

The Panel met in bilateral session during the January and February 2009 meetings of the Commission to review the results of the 2008 fishing season, to receive reports from Canada on spawning escapements and to discuss issues of concern for the 2009 fishing season. Commission staff reviewed concerns regarding the likely continued early upstream migration behavior of Late-run sockeye and provided the Panel with policy options for 2009.

B. NORTHERN PANEL

The bilateral Northern Panel met at the PSC Post Season meeting in Vancouver, British Columbia in January 2009. Fishery managers of both parties presented information to the Panel on 2008 treaty-related fisheries and stock status in the Northern Boundary area.

The Panel reviewed the Northern Boundary Technical Committee annual update on the allowable and actual harvests of salmon, as specified in Annex IV, Chapter 2. Formal reviews had previously been completed up to and including the 2006 season. The Panel reviewed information for 2007 at this meeting in preparation for approval when the Northern Boundary Technical Committee provides their final report.

The Panel received a summary of the status of the Northern Fund financial status from Fund Committee staff. During the January meeting, the Northern Panel usually reviews and discusses projects of interest that have been short-listed for funding consideration by the Northern Fund Committee. However, due to the downturn in investment markets and subsequent suspension of the new project solicitation process, this task was not undertaken in 2009.

There were no bilateral Northern Panel meetings during the PSC Annual Meeting in February.

C. SOUTHERN PANEL

No report was received by the time of publication.

D. TRANSBOUNDARY PANEL

The Transboundary Panel met extensively in bilateral session during the January and February 2009 meetings of the Commission. During January bilateral sessions, the Panel received several reports by staff of the Alaska Department of Fish and Game and the Canadian Department of Fisheries and Oceans concerning fisheries, stock assessments and joint enhancement activities that took place in both countries in 2008. The Panel discussed overage/underage provisions of the prior Annex period and reached agreement on alternate language, a task that completed the Panel's work on renegotiation of the Chapter begun two years earlier. The Panel participated in and completed a planning effort that was funded by the Northern Fund and concerned stock assessment needs for Transboundary salmon stocks. The Panel considered technical work concerning a revised escapement goal for Taku Chinook and reached agreement concerning an alternate escapement target for management of that stock.

Review of 2008 Fisheries and Treaty-Related Performance

PART IV
REVIEW OF 2008 FISHERIES AND TREATY-RELATED PERFORMANCE

The following review has been drawn from a number of reports prepared by Commission staff, joint technical committees, and domestic agencies for presentation to the Commission. Source documents are referenced for each part of this review. All figures are preliminary and will be updated in future reports as more complete tabulations become available.

A. FRASER RIVER SOCKEYE SALMON

Pre-season Planning

1. Pre-season expectations for Fraser River sockeye salmon were for a median (50p level) abundance of 2,899,000 fish. A Johnstone Strait diversion rate of 29% was used for pre-season planning, but updated to 45% before the start of the season.
2. Pre-season spawning escapement goals were 35,000 Early Stuart, 145,000 Early Summer, 724,000 Summer, 132,000 Birkenhead and 299,000 Late-run sockeye for a total of 1,335,000 spawners. The goals for each management group were established by applying Canada's Spawning Escapement Plan to the forecast run size.
3. For Late-run sockeye, the Panel assumed a continuation of the early upstream migration behaviour and associated high mortality that has occurred since 1996. The pre-season expectation for the median (50%) migration date of Late-run sockeye past Mission was August 16. Based on this expected timing and the 50p level forecast abundance (374,000 fish), the Panel adopted a 20% allowable exploitation rate that left 80% of the run for potential spawning escapement.
4. Management Adjustments (MAs) of 31,000 Early Stuart fish and 36,000 Early Summer fish were added to the spawning escapement targets to increase the likelihood of achieving the targets. These MAs were based on relationships between river conditions (discharge and temperature) and historic differences between lower and upriver escapement estimates. Because Late-run management was based on an exploitation rate limit rather than a spawning escapement target, no Late-run MA was applied.
5. The projected Total Allowable Catch (TAC) of Fraser River sockeye salmon based on the median forecast abundance and agreed deductions was 1,086,000 sockeye, of which 16.5% (179,000 sockeye) were allocated to the United States (U.S.). The U.S. share was reduced by 3,500 fish due to a payback owed from 2007.
6. Pre-season model runs indicated it was unlikely the Summer-run TAC could be fully harvested, due to the need to constrain fisheries in order to achieve spawning escapement targets for co-migrating Early Summer and Late-run stocks.
7. Extremely cool sea surface temperatures were observed in the winter and spring of 2007-08 in the Gulf of Alaska where Fraser sockeye rear prior to their return. Such conditions are historically associated with early arrival of Fraser sockeye to the British Columbia coast, a higher proportion of sockeye migration through Juan de

Fuca Strait and lower proportion through Johnstone Strait (i.e., a low "diversion rate"). As part of the pre-season planning process the Panel conducted pre-season model runs with earlier than normal arrival times (both 3 and 7 days earlier than the historical median).

8. The Panel adopted a management plan and fishery regime before the fishing season, including the Management Plan Principles and Constraints, Guidelines to Address Late-run Concerns and the 2008 Regulations.

In-season Management Considerations

9. Marine migration timing was the earliest in over thirty years for all management groups. Early marine timing can lead to interpretations of in-season data that are optimistic about the abundance of a run. The expectations of early timing, however, tempered in-season assessments during the early portion of each run and thereby minimized the tendency to over-estimate abundance.

10. The overall Johnstone Strait diversion rate was 10%, which is the lowest observed since 1973.

11. Returns of Summer and Late-run Fraser sockeye were substantially below forecast levels, resulting in severely constrained commercial harvests in both countries.

12. River temperatures were generally warmer than average and flow levels lower than average. Despite this, in-season MA factors for Early Stuart and Early Summer stocks decreased relative to pre-season expectations. This occurred because the effect of generally warmer than average temperatures was offset by the early migration timing of these stocks, which put the fish in the river when temperatures were cooler than modelled pre-season.

Run Size, Catch and Escapement

13. Returns of adult Fraser sockeye totalled 1,755,000 fish, 61% of the pre-season forecast and the lowest return on the 2008 cycle since 1928. Divided into management groups, adult returns totalled 34,000 Early Stuart, 461,000 Early Summer, 1,017,000 Summer, 62,000 Birkenhead and 182,000 Late-run sockeye. The Early Stuart return was near the forecast and the Early Summer return exceeded the forecast, while returns of Summer and Late-run stocks were substantially less than forecast.

14. Catches of Fraser River sockeye salmon in all fisheries totalled 574,000 fish, including 481,000 fish caught by Canada, 51,000 fish by the U.S. and 41,000 fish by test fisheries. The Canadian catch included 16,000 in commercial, 447,000 fish in First Nations and 16,000 fish in recreational fisheries. In Washington, Treaty Indian fishers caught 41,000 sockeye and Non-Indian fishers caught 9,000. The catch in Alaska totalled 1,600 Fraser sockeye.

15. DFO's near-final estimates of spawning escapements to streams in the Fraser River watershed totalled 816,000 adult sockeye. This escapement was 56% higher than the brood year (2004) escapement of 524,000 adults. The extremely early arrival time and resulting extended freshwater residence times resulted in a 64% spawning success for female sockeye in the Fraser watershed, the second lowest on record and lowest effective female escapement in 40 years.

Achievement of Objectives

16. In order of descending priority, the goals of the Panel are to achieve the targets for spawning escapement, international sharing of the TAC and domestic catch allocation.

17. In-season management decisions are based on targets for potential spawning escapement (i.e., spawning escapement targets plus MAs). In-season estimates of potential spawning escapement (i.e., Mission escapement minus catch above Mission) were near the targets for Early Stuart (8% under), Summer (17% over) and Late-run (-1% under) sockeye; and substantially over the targets for Early Summer (74% over) and Birkenhead (75% over) sockeye. The Panel's success in achieving these in-season targets was primarily due to early detection of the early timing and weak returns of Fraser sockeye, and the Panel's response of severely restraining commercial fisheries.

18. Achievement of spawning escapement targets is assessed post-season by comparing spawning ground estimates of spawner populations with escapement targets derived by applying Canada's Spawning Escapement Plan to the post-season run-size estimates. Upriver estimates of spawning escapement were close to the post-season targets for Early Stuart (12% under), Early Summers (3% over), and Summers (8% over), but substantially below target for Birkenhead (31% under) and Lates (93% under). In total, spawning ground estimates were 100,000 fish or 11% less than the target. For Early Stuart sockeye the shortfall was due to the run size being too low to achieve the target given the observed DBE (-17%) and to the catch of 4,000 fish, primarily in First Nations fisheries. For Birkenhead sockeye the main cause was a much larger DBE (-57%) than expected (0%). The shortfall for Late-run sockeye was due to the run size being too small to achieve the spawning escapement target given the very large observed DBE of -93%. With this magnitude of DBE a run size of about 2,100,000 fish would have been necessary to obtain the nominal Late-run target of 146,000 fish (i.e., total run minus 20% exploitation rate limit = 80% of total run).

19. The exploitation rate for Late-run sockeye including Cultus Lake sockeye was 16%, which was much less than the 20% limit.

20. Based on the TAC calculation method set out in the February 15, 2008 Commission Guidance and Annex IV, Chapter 4 of the Pacific Salmon Treaty, the TAC was 727,000 Fraser sockeye. In this calculation, the TAC was fixed on the date of the Panel's last in-season decision about fisheries in U.S. Panel Areas (July 29 in 2008), while catches are post-season accounted totals. Consistent with pre-season modelling, neither country harvested their full share due to conservation constraints associated with the Early Summer-run escapement target and Late run exploitation rate limit. The Washington catch of 50,000 fish was 67,000 fish less than the U.S. share of 117,000 Fraser sockeye. Similarly, Canada's total harvest of 481,000 fish was 530,000 fish less than their share of 1,011,000 Fraser sockeye (includes Aboriginal Fishery Exemption of 400,000 fish).

21. In U.S. Panel Areas, Treaty Indian fishers caught 37,000 fewer fish than their share (78,000 fish) of the U.S. allocation, while Non-Indian fishers were 30,000 fish short of their share (39,000 fish).

22. Within the Canadian commercial catch of 16,000 fish, Area B seines caught 4,100 fish over their share, Area D gillnets were 500 fish over, Area E gillnets were 3,000 fish under and Area H trollers were 1,600 fish under.

23. By-catches of non-Fraser salmon in commercial net fisheries regulated by the Fraser River Panel totalled 0 sockeye and 700 pink salmon in 2008. Catches of other Fraser and non-Fraser salmon species included 4,400 chinook, 180 coho, 240 chum and 380 steelhead.

Allocation Status

24. There were no paybacks arising from the 2008 management season to carry forward to 2009.

B. 2008 POST-SEASON REPORT FOR CANADIAN TREATY LIMIT FISHERIES

Introduction

Fisheries in 2008 were conducted according to Annex IV of the Pacific Salmon Treaty. The arrangements contained in Annex IV include those initially agreed to between Canada and the United States in June, 1999 as well as additional agreements reached by the Commission and/or Panels since that time (e.g. Transboundary, chinook, coho and chum arrangements). The conservation-based approach commits the two Parties to abundance-based management for all stocks covered by the Treaty.

Catches reported below provide the best information available to date, and may change once all catch information for 2008 has been reviewed. The catches are based on in-season estimates (hailed statistics), on-grounds counts by Fisheries and Oceans Canada management staff and independent observers, logbooks, dockside tallies, landing slips (First Nation fisheries), fish slip data (commercial troll and net), and creel surveys, logbooks and observers (sport and commercial).

Annex fisheries are reported in the order of the Chapters of Annex IV. Comments begin with expectations and management objectives, followed by catch results by species, and where available and appropriate, escapements. The expectations, management objectives, catches and escapements are only for those stocks and fisheries covered by the Pacific Salmon Treaty (PST); domestic catch allocations have been excluded. Table 16 summarizes 1995-2008 catches in Canadian fisheries that have at some time been under limits imposed by the Pacific Salmon Treaty.

Transboundary Rivers

Stikine River

Canada developed a fishing plan for the Stikine River based on the catch sharing and management arrangements outlined in Annex IV, Chapter 1, Paragraph 3 of the Pacific Salmon Treaty (PST), including the new arrangements for Stikine chinook and coho salmon agreed to on 17 February, 2005. Accordingly, the 2008 management plan was designed to meet agreed escapement targets and the following harvest objectives: to harvest 50% of the total allowable catch (TAC) of Stikine River sockeye salmon in existing fisheries; to allow additional harvesting opportunities for enhanced sockeye stocks in terminal areas that were surplus to spawning requirements; to harvest up to 5,000 coho salmon in a directed coho fishery; and, to harvest approximately 8,200 to 15,900 large chinook salmon in a targeted fishery, based on the pre-season forecast, recognising this number could change once in-season run projections were available. The Canadian percentage of the chinook Allowable Catch (AC) fluctuates based on the terminal run size providing higher catch shares when abundance is low and lower catch shares in years of higher abundance.

The 2008 season opened on May 4th, statistical week 19 (SW19), and ended October 24th (SW43). Commercial gear consisted of up to two, 135 metre gillnets per fisher. The maximum mesh size was restricted to 204 mm through June 21st after which time the maximum mesh size was restricted to 150 mm. Only one of the two nets was permitted to be deployed as a drift net.

The lower Stikine commercial fishing grounds extended from the international border upstream to near the confluence of the Porcupine and Stikine rivers and also included the lower 10 km of the Iskut River. Since the Chinook and sockeye salmon runs were weaker than expected, the commercial fishing area was not expanded as it often has been in previous years when runs were strong, with the fishing area being extended upstream approximately 26 km to the mouth of the Flood River. (Fishing ground extensions result in a slightly higher exploitation rate.)

In the upper Stikine commercial fishery, which is located upstream from the Chutine River, fishing periods generally mirrored those in the lower Stikine commercial fishery lagged by one week. Fishers were permitted two nets and effort was low throughout the season. In 2008, the commercial fishing area was extended upstream to the mouth of the Tuya River. This action was taken in order to provide terminal fishing opportunities on Tuya River bound sockeye, specifically at sites located upstream of the Tahltan River. The Tuya run, which consists entirely of sockeye produced from the Canada-US Stikine enhancement program, has no spawning escapement requirement since these fish cannot return to Tuya Lake, where they originated as outplanted fry, due to velocity barriers.

The First Nation fishery located near the community of Telegraph Creek, B.C. was active from late May to August. There were no time or gear restrictions imposed on this fishery.

Most of the chinook sport fishing activity in the Stikine watershed occurs in the vicinity of the Tahltan River, at the mouth and in the lower portions of the river. Additional activity occurs less intensively in the Iskut River and other areas within the Stikine River drainage. Sport fishing activity commenced in late June and peaked in mid-July. Fishing effort and catch was relatively low.

Sockeye salmon

The pre-season forecast for Stikine sockeye salmon, as provided by the Canada/U.S. Technical Committee for the Transboundary Rivers (TCTR), was for a terminal run size[1] of

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[1] Terminal run excludes allowances for U.S. interceptions that occur outside the District 108 and 106 gillnet fisheries.

228,600 fish including: 116,200 Tahltan Lake origin sockeye salmon (59,600 wild and 56,600 enhanced); 56,700 enhanced Tuya Lake sockeye; and 55,700 non-Tahltan wild sockeye salmon. This outlook constituted an above average run; for comparison, the previous 10-year average (1998-2007) terminal run size was approximately 214,300 fish.

Preliminary combined catches from the Canadian commercial and First Nation (food, social, ceremonial (FSC)) gillnet fisheries in the Stikine River totaled 33,614 sockeye in 2008, which was below the 1998-2007 average of 48,900 fish. The lower Stikine commercial fishery harvested 28,636 sockeye, while the upper Stikine commercial and First Nation fisheries harvested a total of 505 and 4,473 sockeye, respectively. The preliminary estimate of the total contribution of sockeye salmon from the Canada/U.S. Stikine sockeye enhancement (i.e. the fry-planting program) to the combined Canadian First Nation and commercial catches was 19,882 fish, or 59% of the catch.

In addition to these catches, 1,111 sockeye salmon were taken in a test fishery located near the international border. A new test fishery designed to target on Tuya bound sockeye and located in the mainstem Stikine River above the mouth of the Tahltan River succeeded in harvesting 1,921 sockeye salmon. An additional 290 sockeye was harvested and sampled in the Tuya River.

A total of 10,516 sockeye salmon was counted through the Tahltan Lake weir in 2008; 63% below the 1998-2007 average of 28,200 fish. The 2008 count was well below both the escapement goal range of 18,000 to 30,000 fish and the point target of 24,000. An estimated 4,600 fish (44%) originated from the fry-planting program, which was close to the 49% contribution of hatchery smolts observed in 2005, the principal smolt year contributing to the 2008 return. A total of 100 sockeye salmon was sacrificed at the weir for stock composition analysis. In addition, 2,364 sockeye salmon were collected for broodstock, resulting in a spawning escapement of 8,052 sockeye salmon in Tahltan Lake. The number of fish counted at the weir was disappointing and well below in-season projections. Based on an in-season in-river run size estimate of Tahltan Lake sockeye of 37,900 fish minus the in-river catch of approximately 17,000 sockeye, the escapement to Tahltan Lake was expected to be ~21,000 fish. This estimate was generated in late July when most of the Tahltan fish had transited the fishery. The reason(s) for the discrepancy between the in-season and post season Tahltan run size is unknown. To check for potential migration barriers, the Tahltan River was flown to assess the river for fish passage blockages. Tashoots Creek, draining Tahltan Lake, was also assessed. No obvious obstructions were observed in either waterway; however, a site located in the Tahltan River, approximately 40 km upstream from its mouth, was felt to have potential to impede salmon migration. This site deserves further investigation.

The spawning escapements for the non-Tahltan and the Tuya stock groups are calculated using stock ID, test fishery and in-river catch data. Neither the test fishery nor the commercial fishery operated for the full duration of the sockeye run: the commercial fishery operated in June through to August 10th (SW33); and the test fishery operated July 11th to September 5th (SW36). To determine run timing and subsequently to estimate in-river run sizes and escapements, commercial fishery CPUE was augmented by calculated weekly CPUE values for the period post SW33. The calculated CPUE's were based on the linear relationship between the commercial CPUE and the test fishery CPUE in 1986-04. All of the weekly data sets were significantly correlated. Based on this run reconstruction approach, the preliminary escapement estimates for 2008 are 14,500 non-Tahltan and 6,100 Tuya sockeye salmon. The non-Tahltan spawning escapement estimate is both well below the point target of 30,000 fish and the escapement goal range of 20,000 to 40,000 fish. Aerial survey counts of non-Tahltan sockeye also indicated a weak return. The index count of 403 fish, observed on September 12th, was 56% below the 1998-07 average of 920 fish.

Based on the in-river run reconstruction of the Tahltan Lake run expanded by run timing and stock ID data in the lower river and estimated harvests of Stikine sockeye in U.S. terminal gillnet fisheries, the preliminary post-season estimate of the terminal sockeye run size is approximately 110,800 fish. This estimate includes 46,700 Tahltan Lake sockeye, 35,800 Tuya Lake sockeye, and 28,200 sockeye of the non-Tahltan stock aggregate. A Stikine run size of this magnitude is 39% below the 1998-2008 average terminal run size of 184,200 sockeye salmon and is approximately one half the preseason expectations of 228,000 fish.

Unlike past years, Canada relied more heavily on other in-season abundance estimates than those derived from the Stikine sockeye management model (SMM), which was updated and refined by the TCTR prior to the season. The SMM was only used in SW27 by Canada since it was felt that it was grossly over-estimating the run size for most of the season. As a result, most of the in-season run projections used in management of the Canadian fisheries were based on harvest rate models and run reconstruction analyses as the season progressed. The run sizes ranged from 259,000 fish in SW27 (June 29th – July 5th) to 117,400 fish in SW33 (August 10-16th). The total Canadian catch was below, and often well below, in-season estimates of the allowable catch through SW29; by this time more than 75% of the run had passed through the fishery. After SW29, the projections of total run size and TAC progressively dropped. The final in-season projection indicated a terminal run size of approximately 117,400 sockeye and a TAC for Canada of approximately 18,600 sockeye. The actual catch of approximately 33,613 sockeye resulted from inseason TAC projections that were well above the post season estimate especially during the first three-quarters of the run combined with weak run projections towards the end of the run.

Coho salmon

Relatively low prices in concert with a coho salmon quota of only 5,000 fish resulted in a catch of 2,400 coho, approximately half of the quota, but well above the 1998-2007 average of 240 coho salmon.

The cumulative weekly CPUE index of 5.69 observed in the coho test fishery was 21% above the recent 10 year average cumulative CPUE of 4.51. Aerial surveys of four index spawning sites did not follow suit with a combined count of 1,100 fish, approximately 62% below the recent 10 year average (note: due to inclement weather only four of the six indices were surveyed.)

Chinook salmon

The pre-season forecast of Stikine chinook salmon, as provided by the Canada/U.S. Technical Committee for the Transboundary Rivers (TCTR), was for an above average terminal run size of 46,100 large chinook salmon. (jack chinook, i.e. fish with a mid-eye to fork length <660mm or a fork length of <735mm, are excluded in both the run size projections and management considerations). For comparison, the previous 10-year

(1998-2007) average terminal run size was approximately 42,800 large chinook salmon.

The total combined gillnet catch of chinook salmon in the First Nation and commercial fisheries included 7,860 large chinook and 1,067 jacks compared to 1998-2007 averages of 6,246 large chinook and 1,170 jacks. The 2008 sport fishery yielded a total catch of 50 large chinook. Obviously the 2008 catch eclipses the recent 10 year average due to the targeted chinook commercial fishery which commenced in 2005. The preliminary post-season estimate of the terminal run is 35,800 large chinook, which translates into a Canadian TAC of 8,690 fish. The total Canadian catch of 7,910 large chinook salmon was, therefore, close to the treaty entitlement.

In-season management was influenced significantly by run size projections derived from the Stikine Chinook Management Model (SCMM) and a joint Canada-U.S. mark-recapture program. In-season terminal run size projections ranged from 43,000 fish in SW23 (June 1st – 7th) to 38,800 fish in SW29 (July 13-19th). The final in-season SCMM projection indicated a terminal run size of approximately 39,600 large chinook; this estimate was close to the final in-season mark-recapture estimate of 38,000 large chinook. According to these estimates, the TAC for Canada ranged from approximately 9,400 to 9,800 large chinook salmon. To honour Annex IV, Chapter 1, Paragraph 3(a)(3)(vii) which identifies the will of both Parties to spread the chinook harvest over the season, the duration of weekly fishery openings were based on weekly guideline harvests developed from the current in-season run projections (or from the pre-season forecast before in-season projections were available) apportioned by historical run timing data. Overall, catches were below or close to weekly guidelines in five of the seven openings during the chinook season. High water levels affected the ability to meet weekly quotas in some weeks. Management emphasis switched to sockeye salmon in SW26 (June 22nd – 28th) when a maximum mesh restriction of 150 mm (5.75") was invoked by regulation.

In addition to the mark-recapture study and aerial surveys, genetic samples were collected on a weekly basis from chinook caught in the U.S. District 108 fishery and from weekly catches taken in the Canadian commercial fishery. These data will be used to assess run timing of Stikine stocks in District 108 and the lower Stikine commercial fishery.

The 2008 chinook salmon escapement enumerated at the Little Tahltan weir included 2,656 large fish and 139 jack chinook salmon. The escapement of large chinook salmon in the Little Tahltan River was 61% below the recent 10 year average of 6,817 fish and 19% below the point estimate of the number of spawners required to achieve maximum sustained yield (N_{MSY}) for this stock of 3,300 large chinook salmon. The 2008 escapement, however, was close to the lower bounds of the Little Tahltan escapement goal range of 2,700-5,300 large chinook.

The mark–recapture study was conducted again in 2008 concurrent with the SCMM to assess in-river chinook salmon abundance. Mark-capture estimates were calculated after SW23 (June 1st – 7th). The preliminary post-season estimate of the in-river run size, based on tag recoveries in the commercial fishery, is approximately 26,100 large chinook. Accounting for the total Canadian catch of 8,000 large chinook salmon, the potential total system-wide spawning escapement is estimated to be approximately 18,100 large chinook salmon. This estimate is 51% below the recent 10 year average of 37,300 large chinook, but slightly above the system-wide N_{MSY} escapement goal of 17,400 large chinook salmon.

Stikine River chinook run timing to the lower Stikine commercial fishing area was approximately one week earlier than normal, whereas, fish arriving at the Little Tahltan weir were approximately two weeks late. The escapement to the Little Tahltan River represented approximately 14.7% of the estimated total Stikine River escapement compared to an average contribution of approximately 16.8% (1998-2007). Escapement counts in Verrett Creek (a tributary to the Iskut River) were weak as reported by the carcass pitch crew stationed at the creek from 07-15 August. A weak chinook salmon return to Shakes Creek (near Telegraph Creek) was also reported by residents living at the creek mouth.

Joint sockeye enhancement

Joint Canada/U.S. enhancement activities continued with approximately 3.15 million sockeye eggs collected at Tahltan Lake in the fall of 2008; this was below the target of 6.0 million. The failure to reach the egg take goal was due to the below average return of 10,500 fish to Tahltan Lake and the behaviour and/or distribution of the sockeye in the lake that resulted in fewer fish utilizing the principal spawning and brood collection sites. Another constraining factor was the time period for the egg-take agreed by the Enhancement Sub-committee of the TCTR who has recognized the need for a period when wild spawning should occur without disruption caused by the egg take. The end date for the egg take scheduled for September 27th was cut short by two days due to a death in one of the local communities and the desire of the crew members to attend the service.

Approximately 1.5 million fry were out-planted into Tahltan Lake in late May and early June of 2008. The fry originated from the 2007 egg-take and were mass-marked in the hatchery with thermally induced otolith marks. The balance of 1.5 million fry originating from the 2007 Tahltan Lake egg take were released into Tuya Lake in mid June, 2008.

Approximately 1.4 million sockeye salmon smolts were enumerated emigrating from Tahltan Lake in 2008, close to the 1998-2007 average count of approximately 1.44 million smolts. The contribution of hatchery origin fish was approximately 0.5 million smolts and represented 36% of the emigration.

Although the Stikine enhancement program has been successful in producing significant numbers of sockeye salmon, the inability to harvest these fish in the terminal area continues to be a concern. Returning adults from the Tuya Lake outplants unsuccessfully attempt to ascend the impassable barriers in the lower reaches of the Tuya River until they either perish or back out of the system. Some of these drop outs end up in nets fished in the Telegraph Creek area raising concerns over poor quality, injured and battered up fish. Others stray[2] into Stikine River tributaries raising concerns over potential impacts on wild salmon stocks.

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[2] Straying of Tuya sockeye has been confirmed using radio telemetry and sampling for thermal marks. In a report completed in February 2006, funded by the Northern Fund, which investigated potential impacts and risks of the straying of enhanced Tuya sockeye salmon, the authors concluded that …"*given the results of the literature review and the data collected to date in the Stikine River, the probability of genetic risk of Tuya River blocked fish appears to be extremely low. However, it is prudent to suppose, that given a long enough period of time and a large enough number of fish, that some successful straying and interaction of Tuya River fall back fish could take place*".

Various attempts have been made to date to address these concerns many of which were made possible by support from the Northern Fund. Fishing with gillnets and dipnets has occurred at various sites in the Tuya River with mixed results. To improve fish capture in the lower Tuya River, a fishway/trapping apparatus was designed and constructed in Vancouver during the spring of 2006 and transported to Whitehorse. However, full operation of the apparatus was cancelled because of a major rock slide at the Tuya River fishing site that occurred sometime in June 2006. The rockslide rendered the fishing site, which the fish trap was designed for, unusable due to changes in river hydrology and unsafe working conditions. In 2007, additional rock slide activity occurred in the lower reaches of the Tuya River. A steering committee, consisting of Canadian and U.S. engineers and other technical advisors, visited the site in August 2007 to re-assess the conditions and to consider other options. The committee decided to proceed the following year with plans to strategically blast the rock obstruction at the location of the 2006 rock slide to provide fish passage to a potentially favourable harvest site located ~800 metres further upstream. In the late fall of 2008, a blasting crew succeeded in removing approximately 150 m^3 of rock from the blockage. The success or failure of the blasting operation will be assessed in July 2009 upon the return of Tuya River sockeye. The committee plans to contract an engineering firm to design a fish harvest structure for the new site. The firm will provide both design detail and cost estimates for the structure as well as the routing and costs of an access trail to the site. The final design will be influenced by the conceptual design provided by the Tuya River steering committee.

In 2008, an experimental test fishery, designed to target Tuya River sockeye at fishing sites located in the lower Grand Canyon of the Stikine River upstream from the mouth of the Tahltan River, yielded a total catch of 1,921 sockeye. This represented an exploitation rate of approximately 23% on this stock. Some Chinook salmon were incidentally harvested in the course of this 11 day fishery which was conducted from July 21-31. In light of costs, inherent risks associated with fishing within the confines of the canyon, and the preliminary stock identification analyses of the catch that indicated ~35% of the sockeye were not of Tuya River origin, continuation of the test fishery in future years is uncertain at this time.

Taku River

As with the Stikine River, the fishing plan developed by Canada for the Taku River was based on the arrangements in Annex IV, Chapter 1, Paragraph 3 of the PST, including the recent amendment to Paragraph 3(b) regarding chinook salmon. Accordingly, the plan addressed conservation requirements and contained the following harvest objectives: to harvest 1,400 large chinook salmon in an assessment fishery designed to replace the chinook test fishery until such time as the inseason run projection exceeded the trigger for a targeted chinook fishery; to harvest 18% of the TAC of wild Taku River sockeye salmon, plus up to 20% of the projected sockeye escapement in excess of 100,000 fish; to attain a 50% share of the catch of enhanced Taku River sockeye; and, to harvest 3,000 to 10,000 coho salmon in a directed coho fishery, depending on in-river run size projections. The 2008 season opened on Monday April 28th, SW18, at an assessment level, and ended on Thursday October 8th, SW41; however no fishing activity occurred after Saturday August 23rd, SW34, primarily due to market conditions. Fishing area and gear restrictions were as per recent years with the exception of the allowable length of drift gill nets which was liberalised from 30.5 metres (100 feet) to 36.6 metres (120 feet) to enhance efficiency.

Chinook salmon

The bilateral pre-season run outlook was for a terminal run of 39,400 large chinook, approximately 17% below the previous 10-year average of 47,300 fish. This fell short of the number required for a targeted chinook fishery, i.e. 42,400 fish (which is the sum of the N_{MSY} escapement goal of 36,000 large Chinook, the test fishery allocation of 1,400 large chinook, and the Canadian and U.S. base level catches of 1,500 and 3,500 large chinook, respectively). Normally, in the absence of a directed fishery in Canada, a test fishery would have been prosecuted to provide the data for in-season estimates of abundance. However, it was not practicable to issue a scientific licence for test fishing since the 2006 federal court decision, *Larocque v Canada*. Consequently, the commercial fishery was opened at an assessment level and intensively managed to the weekly guidelines developed for the test fishery. The fishery was managed in a similar fashion to the 2007 assessment fishery, which had concurrence from the U.S. Panel and Technical Committee co-chairs, with an objective of harvesting 1,400 large chinook.

The assessment fishery harvested 1,399 large and 139 small chinook salmon; at no point throughout the run did the run projections exceed the threshold that would justify initiating targeted commercial fisheries. In-season projections of the terminal run size of large chinook salmon, allowable catch (AC), and escapement were made starting in SW20. The estimates were based on the bilateral mark-recapture program, the estimated catch of Taku River chinook in U.S. fisheries, the catch in the Canadian in-river assessment fishery, and historical run timing information. The preliminary postseason estimate of terminal run size is approximately 31,730 large chinook, 19% below the pre-season forecast. A terminal run size of this magnitude is associated with an overall AC of 0 fish plus base level catches (BLC) of 5,000 fish (1,500 Canada; 3,500 U.S) and test fishery catch of 1,400 fish. The Canadian and U.S base level catches of large chinook were 1,184 and 2,514 fish, respectively.

Most of the Canadian treaty catches of large chinook, that is, catch taken outside the assessment fishery, was taken in the directed sockeye commercial fishery; the First Nation fishery catch was only one fish, while the assumed recreational fishery catch was 270 fish. The treaty catch of 1,184 large chinook was well below the 1998-2007 average of 2,620 fish; however, this average includes targeted chinook fisheries in 2005 and 2006. The treaty harvest of small chinook was 330 fish, approximately equal to the average of 336 fish.

Preliminary estimates derived from the bilateral chinook mark-recapture program indicate a spawning escapement of approximately 27,200 large chinook salmon. This estimate is 24% below the target of 36,000 fish for 2008; it is also 9% below the lower end of the escapement goal range of 30,000 to 55,000 fish and 28% below the 1998-2007 average spawning escapement of 38,011 fish. During aerial surveys of six index areas conducted by ADF&G, a total of 5,314 large chinook was observed; this was 10% below the 1998-2007 average. Conditions were rated as normal in five of the six areas, and as excellent in the sixth.

Sockeye salmon

The Canadian pre-season run outlook for wild sockeye was 181,000 fish, approximately 26% below the previous 10-year average total run size of 245,000 sockeye. An additional 9,300 sockeye was expected from Tatsamenie Lake fry outplants associated with the Canada/U.S. joint Taku sockeye enhancement program; this was considered to be a conservative estimate as smolt size in 2005 was well above average. These outlooks were for total run, which assumes that additional U.S. harvest, amounting to 5% of the total run, occurs outside of District 111.

The Canadian catch of sockeye was 19,445 sockeye, 19,245 of which were taken in the commercial fishery and 201 in the First Nation fishery. An additional 10 wild sockeye were taken in the Chinook assessment fishery. The commercial catch was 25% below the 1998-2007 average of 26,600 sockeye. The contribution of sockeye salmon from the bilateral enhancement program is estimated at 1,906 fish, comprising 10% of the total Canadian catch.

Projections of the total sockeye run size, TAC, and total escapement were made frequently throughout the fishing season. The estimates were based on the bilateral mark-recapture program, the estimated catch of Taku River sockeye in U.S. fisheries, the catch in the Canadian in-river fishery, and historical run timing information. The preliminary post-season estimate of total run size is approximately 161,410 wild sockeye, within 11% of the preseason forecast. This run size is associated with a TAC of 86,410 wild sockeye, based on the approximate mid-point (75,000 fish) of the escapement goal range (71,000-80,000). The Canadian catch of 17,519 wild sockeye represented 20% of the TAC, while the US catch of 77,613 fish (including assumed catch outside of District 111) represented 90%. The spawning escapement of wild sockeye is estimated at 66,268 fish. The preliminary estimate of the total run of enhanced Taku sockeye salmon is approximately 17,249 fish, of which Canada harvested 11% (1,926 fish), the U.S. harvested 65% (11,151 fish), and 24% (4,171 fish) spawned. The return of enhanced fish was 67% above the preseason forecast, which had been identified as conservative.

The estimated spawning escapement of sockeye salmon in the Canadian section of the Taku River, 70,439 fish, is just below the lower end of the escapement goal range of 71,000 to 80,000 fish and 37% below the 1998-2007 average escapement of 111,330 sockeye. Based on weir counts, escapements to the Little Trapper, Tatsamenie, Kuthai and King Salmon lake systems were 3,829, 8,976, 1,547 and 888 sockeye, respectively. The Little Trapper escapement estimate was a record low, 74% below the 1998-2007 average, while the Tatsamenie count was 1% above average. The Kuthai Lake count was 73% below the 1998-2006 average. The King Salmon Lake count was 68% below the average for the years with reliable weir counts, specifically 2003-2006.

Coho salmon

The commercial catch of 3,772 coho salmon was 21% below the 1998-2007 average catch of 4,799 coho salmon; the First Nation catch of 67 coho salmon was 81% below the average of 348 fish. The treaty catch of coho salmon, i.e. catch taken after SW33, was 1,184 fish. Based on bilateral mark-recapture data, the preliminary estimate of the run into the Canadian section of the drainage is 84,232 coho. According to the PST harvest arrangements for Taku coho salmon, at a run size of this magnitude, Canadian fishers were entitled to harvest up to 10,000 coho salmon after SW34. The in-river run size estimate minus the Canadian harvest results in a preliminary spawning escapement estimate of 80,393 coho salmon. This estimate is 21% below the previous 10-year average of 101,905 fish, but more than twice the upper end of the interim escapement goal range (27,500 to 35,000 fish).

Joint sockeye enhancement

Joint Canada/US enhancement activities continued in 2008. Approximately 89% of the eggs collected in 2007 from Tatsamenie Lake survived to the fry stage at Snettisham Hatchery in Alaska; three incubators containing approximately 580,000 fry were lost to IHNV. In late May through early June 2008, approximately 2.1 million sockeye fry were outplanted into Tatsamenie Lake. In addition, as part of an extended rearing trial, 400,000 fry which had been reared to 0.6 grams in the hatchery were released into net pens located in Tatsamenie Lake. Unfortunately, all of these fry had to be eventually destroyed due to IHNV.

It is estimated that approximately 540,000 sockeye smolts out-migrated from Tatsamenie Lake in the spring of 2008; this was within 2% of average, however smolt size was well below average. The contribution of enhanced smolt to this out-migration was estimated to be 23% based on preliminary thermal mark analysis.

As part of the feasibility study associated with removal of a migration barrier near the outlet of Trapper Lake, eggs were collected in 2007 from sockeye spawning a short distance downstream. A limited number were planted into Tunjony Creek, a tributary to Trapper Lake, while the majority were transported to Snettisham Hatchery. The green egg-to-fry survival in the hatchery was 60%; as with the Tatsamenie Lake stock, IHNV resulted in some losses. Approximately 350,000 fry were out-planted into Trapper Lake in early June 2008.

In September and October 2008, an estimated 5.0 million viable eggs were delivered from Tatsamenie Lake to the Snettisham Hatchery for incubation and thermal marking. In addition, approximately 150,000 eggs were taken from sockeye spawning downstream of the Trapper Lake barrier; these eggs were planted in Tunjony Creek.

Additional enhancement-related activities undertaken in 2008 included evaluation of the fry outplanting into Trapper Lake, as well as field investigations at King Salmon, Kuthai, Hatchau and South Fork lakes for evaluation of enhancement potential.

Alsek River

Although catch sharing of Alsek salmon stocks between Canada and the U.S. has not been specified, Annex IV of the PST does call for a co-operative development of abundance-based management regimes for Alsek chinook, sockeye and coho stocks. Instead of managing to system-wide goals, which for the most part have been as yet unverifiable, the TCTR has established index goals for the Klukshu River stocks. Historically, the principal escapement-monitoring tool for Chinook, sockeye and coho salmon stocks in the Alsek drainage has been the Klukshu River weir, operated by Fisheries and Oceans Canada in co-operation with the Champagne-Aishihik First Nation. The Klukshu River is a tributary to the Tatshenshini River, which is the major salmon producing river system of the Alsek drainage.

Based on joint stock-recruitment analyses conducted on Klukshu chinook and sockeye salmon, Canadian and U.S. managers had agreed to a minimum escapement goal of 1,100 Klukshu chinook salmon and an escapement goal range of 7,500 to 15,000 for Klukshu sockeye salmon for the 2008 season. An escapement goal for Klukshu coho salmon has not yet been developed.

The 2008 season was marked by the lowest return of chinook and sockeye salmon on record and the fourth consecutive year that the chinook escapement goal has not been achieved. The only harvest information for the 2008 Aboriginal food fishery was the fish taken at the Klukshu River weir which was 0 chinook, 0 sockeye, and 26 coho salmon. The recent 10 year average recorded catches were 100 chinook, 1,306 sockeye, and 15 coho salmon. As a result of the poor returns of chinook and sockeye salmon, discussions with DFO and the Champagne and Aishihik First Nations (CAFN) were held and it was decided to close the food fishery on July 23rd until further notice. On August 25th, after a request from CAFN was made to DFO, an exception to allow elders only to fish for sockeye salmon in Village Creek was agreed to. Once the coho had started to return to the Klukshu River, the food fishery was opened on the 26th of September to only target coho salmon.

Preliminary catch estimates for the Alsek/Tatshenshini River recreational fishery were well below average for chinook salmon, with an estimated 7 fish retained. Sockeye salmon had no reported harvest, and no catches were recorded for coho salmon. These represented 6.5% of average for chinook, 0% of the average for sockeye, and 0% for coho salmon. On July 19th, the daily and possession limits for chinook salmon were reduced to zero for the remainder of the year due to the projected lowest return of chinook salmon since the weir program began in 1976. By July 22nd, it was decided to implement a full angling closure in the Yukon portion of the Tatshenshini River to protect the weak returns of chinook and early run sockeye salmon; this eliminated any potential catch and release of salmon. On the 23rd of July, a salmon angling closure was implemented in the British Columbia sections of the Tatshenshini River for the remainder of the season. Retention of sockeye salmon in the Tatshenshini River was not permitted for the 2008 season due to the record low returns.

The Klukshu weir count of 466 chinook salmon was 30% of the previous 10-year (1998-2007) average of 1,556 fish and is the lowest count on record. The estimated spawning escapement of 466 chinook salmon above the weir was well below the minimum escapement goal of 1,100 Klukshu chinook salmon. Aerial survey counts of chinook salmon, conducted by ADF&G for the Takhanne and Blanchard rivers and Goat Creek, were all well below average.

The weir count and spawning escapement of Klukshu River sockeye salmon were both 2,741 fish. The early-run weir count of 43 sockeye was 2% of the previous 10-year (1998-2007) average of 2,453 fish; whereas, the late-run count of 2,698 fish was 24% of the previous 10-year average of 11,149 sockeye salmon. The overall spawning escapement of 2,741 sockeye salmon in the Klukshu River was the lowest on record and well below the lower end of the escapement goal range (7,500 – 15,000 sockeye). The sockeye escapement was not enumerated in the neighbouring tributary of Village Creek due to a major malfunction of the electronic counter.

The Klukshu weir count of 4,275 coho salmon was 65% above the previous 10-year average of 2,584 fish. The weir is removed prior to the completion of the coho return due to budgetary constraints and icing conditions, and generally does not include fish that migrate after mid-October. In 2008, the weir was pulled on October 13th.

The record low returns of Klukshu chinook and sockeye salmon were both unprecedented and unexpected. Parent year spawning escapements should have been sufficient to produce average to above average runs. For example, the primary brood year escapements for chinook were 1,700 – 2,100, for early sockeye were 3,100-3,500, and for the combined early and late sockeye runs were 15,400 – 32,100 fish. Hence the 2008 escapements were far below replacement even though exploitation was kept to a minimum. Widespread weak returns of chinook and sockeye throughout northern southeast Alaska suggest runs were likely affected by very poor marine survival.

Northern British Columbia Pink Salmon

Areas 3-1 to 3-4 Pink Net Catch

For the year 2008, Canada was to manage the sub-areas 3-1 to 3-4 net fishery to achieve an annual catch share of 2.49 percent of the annual allowable harvest (AAH) of Alaskan Districts 101, 102 and 103 pink salmon. With a total return of approximately 25.46 million pinks, the Alaskan Districts 101, 102 and 103 AAH was 14.71 million pinks. The resulting sub-areas 3-1 to 3-4 Canadian commercial net total allowable catch of this AAH was approximately 365,455 pinks of Alaskan Districts 101, 102 and 103 origin.

In the Canadian northern boundary area, pink salmon returns were anticipated to be well below average for both Area 3 and Area 4, based on brood year return strength. Returns in 2008, to both Areas 3 and 4, were poorer than anticipated, with escapements and catches being the worst on record. Similar returns were experienced for the southeast Alaska pink stocks adjacent to the northern boundary area. The 2008 Canadian pink salmon catch in Sub-areas 3-1 to 3-4 was 9,608 and a preliminary estimate of the Alaska stock component of this catch is 8,330, or 0.06% of the AAH, well below the allotted 2.49 % of the AAH of 365,455 pieces.

The total Canadian combined gillnet and seine pink catch of 9,608 in sub-areas 3-1 to 3-4 is the lowest combined net catch on record. This extremely poor harvest was the result of a number of factors, most notably poor survival from a poor brood, along with poor returns of Area 3 sockeye which minimized fishing opportunities in the outer portion of Area 3. The percentage of the 2008 Area 3 net catch taken in sub-areas (3-1 to 3-4) was 44.6%, which was well below the 1985-2000 average of 58%.

Aggregate pink salmon escapements in 2008 were the poorest on record in Areas 3 and 4.

Area 1 Pink Troll Catch

For the year 2008, Canada was to manage the Area 1 troll fishery to achieve an annual catch share of 2.57 percent of the annual allowable harvest (AAH) of Alaskan Districts 101, 102 and 103 pink salmon. With a total return of approximately 25.46 million pinks, the Alaskan Districts 101, 102 and 103 AAH was 14.71 million pinks. The resulting Area 1 Canadian commercial troll total allowable catch of this AAH was approximately 302,374 pinks of Alaskan Districts 101, 102 and 103 origin.

The Canadian commercial troll fishery in Area 1 was open in the northern portion of the Area from July 1st to September 30th, with the directed pink fishery along the A-B line strip being open from July 1st to July 24th. The fishery harvested a total of 31,360 pink salmon, with an estimate of 29,295, or 93.4%, being of Alaskan origin. This equates to 0.20% of the

Alaskan District 101, 102 and 103 pink AAH, well below the annex agreement for 2.57 percent of the Alaskan Districts 101, 102 and 103 pink salmon AAH.

Chinook Salmon AABM Fisheries

The pre-season abundance index for North Coast B.C. troll and Q.C.I. Sport fisheries in 2008 was 0.96, which allowed a total catch of 124,800 chinook salmon in these fisheries. Preliminary estimates indicate a total catch of 95,647 chinook salmon: 52,147 caught in commercial troll fisheries and 43,500 caught in sport fisheries.

The North Coast B.C. troll fishery was opened for chinook fishing from June 20 to August 8th and from August 28th to September 30th, 2008. The entire 2008 NBC Troll fishery was conducted under a system of individual transferable quotas. The size limit was 67 cm. Barbless hooks and revival boxes were mandatory in the troll fishery. No troll test fisheries were conducted in the North Coast of B.C. in 2008.

Sport fishing was open with a daily limit of 2 chinook and a possession limit of 4 chinook. An estimated 43,500 chinook were caught in the Queen Charlotte Islands sport fishery. A minimum size limit of 45 cm was in effect and barbless hooks were mandatory in the sport fishery.

Chinook ISBM Fisheries

Fisheries included in this category are commercial net fisheries throughout north and central BC, marine sport fisheries along the mainland coast and freshwater sport, and Native fisheries in both marine and freshwater areas. Under the PST, obligations in these fisheries are for a general harvest rate reduction (estimated in aggregate across fisheries) for ocean mixed-stock fisheries and for stock-specific objectives (i.e., achieving the escapement goal) in terminal areas.

North Coast commercial gillnet catches totalled 6,070 chinook from Areas 3 to 6 (from fish slip catch data). Chinook catch in Areas 3 and 4 were 458 and 5,598 chinook respectively. Only 7 chinook were reported caught with gillnets from Area 5 and 7 chinook were also reported caught in Area 6. These preliminary estimates of gillnet catches include chinook less than 5 pounds (graded as jacks and small red fleshed chinook) not normally included for PSC accounting. Small chinook typically makes up less than 5% of commercial gillnet catches. A total of 1,293 large chinook and 108 jacks were caught in the Tyee Test fishery on the Skeena River.

Johnstone Strait commercial fisheries including Area B seine and Area D gillnet was managed by South Coast and corresponding catches are reported in the South Coast section of this report.

Tidal sport catch from lodges operating in the Rivers Inlet, Hakai Pass and Bella Bella areas were estimated using log books. Approximately 2,909 chinook were caught in 2008, much less than recent years. Detailed surveys of non-lodge (independent) anglers were not conducted in 2008 but catches by independent anglers are generally less that the lodge component. Creel surveys used to estimate catches of chinook in Rivers Inlet by independent anglers averaged 334 chinook between 2003 and 2005.

Tidal sport catches near the mainland coast of Northern BC were estimated at 12,000 in a creel survey conducted in Areas 3, 4 and 5 in 2008. The 2008 catch in the Area 6 mainland sport fishery is unknown. No freshwater creel surveys were conducted in the North Coast in 2008. The sport catch from the Skeena River fishery (downstream of Terrace, B.C.) included 6280 chinook in 2003. Although catches were not measured in 2008, effort appears to be higher than in 2003.

Catches by First Nations in the North Coast exceeded 14,963 chinook. Nisga'a and Gitanyow catches from the Nass River were 4,060 chinook. Haida catches on the Queen Charlotte Islands were estimated at 1,170 chinook. Only a portion of catches from Native fisheries in the Skeena have been reported but current estimates exceed 8,326 chinook. Chinook catch by First Nations on the Skeena appear to be more than 2007.

Catches by First Nations in the tidal portion of the Central Coast were reported as 85 chinook while the non-tidal catch of terminal Atnarko River Chinook was 2,807 chinook.

Overview of Northern BC Chinook Stock Status

Since assessments of the ISBM fisheries are relative to the escapements achieved in the chinook indicator stocks, a brief overview of the 2008 returns is provided. Northern BC terminal runs were similar to 2007. Preliminary estimates of Nass River escapements decreased slightly to 18,697. Skeena River chinook escapements were on par with recent estimates at approximately 33,848. Kitimat River and Yakoun River chinook escapements were not estimated in 2008.

Fraser River Sockeye

Objectives and Overview

The sockeye run-size forecast for 2008 resulted in a pre-season plan based on the 50% probability level of abundance (2.9 million) with a predicted diversion through Johnstone Strait of 29%. The pre-season plan also incorporated provisions to protect Early Stuart and Late-run stocks in addition to Cultus and Sakinaw Lake sockeye. The U.S. share of the annual Fraser River sockeye salmon total allowable catch (TAC), harvested in the waters of Washington State was set at 16.5% as per the PST Annex IV Chapter IV agreement. There were no catch overages of Fraser River sockeye from previous years to address. The panel adopted 50% probability level forecasts for all sockeye run timing groups for planning fisheries.

The 2008 50% probability forecasts for the four management aggregates were as follows: Early Stuart 35,000; Early Summer 349,000; Summer-run 1.8 million; and Late-run 705,000, of which 331,000 were Birkenhead type, for a total of 2,899,000 Fraser sockeye. Comparing forecasted stocks only with the historic cycle line from 1980-2005, Early Stuart was 19% of average, Early Summers (excluding miscellaneous stocks) 54% of average, Summers 32% of average, Lates (excluding Birkenhead and miscellaneous stocks) 75% of average, and Birkenhead 81% of average. Overall, the 2008 forecasted stocks were 62% of the cycle line average (excluding miscellaneous stocks).

The lower than average forecasts for all the stock aggregates reflect low brood year escapements in 2004 and poor anticipated survivals of the 5 year old components of some stocks due to very poor marine survival in the 2005 ocean entry year.

Late-run sockeye have historically delayed in the Strait of Georgia for 4-8 weeks prior to entering the Fraser River. Beginning in 1996, this behaviour has changed to one where there has been a shorter delay and occasionally immediate river entry. Concerns for Late-run early entry and the associated elevated rates of en-route and pre-spawn mortality continue. Management objectives and actions implemented in 2008 placed priority on conserving Fraser River Late-run sockeye (which include Cultus Lake sockeye) while providing opportunities to harvest surplus Summer-run sockeye. To increase management flexibility and permit some by-catch of Late-run sockeye while harvesting surplus Summer-run sockeye, the allowable Late-run and Cultus Lake exploitation rate was fixed and limited to 20%.

The pre-season plan made several assumptions, including:

- Late-run sockeye would continue their early migration behaviour with an associated en-route mortality and an estimated difference between estimates (DBE)[3] of 82%;
- that Fraser sockeye would return earlier than usual (based on a sea surface temperature model), and an eight day separation exists in the 50% marine migration timing between Summer-run (July 30) and Late-run (August 7) sockeye;
- that although the capability to assess in-season run size and migration timing would be good for Summer-run and Late-run sockeye, an in-season run size estimate for Cultus Lake sockeye would not be possible due to low abundance relative to co-migrating sockeye stocks. As a result the harvest impacts on Cultus Lake sockeye would be assessed using other Late-run stocks (excluding Birkenhead and Harrison) as a proxy; and
- that using Canada's escapement plan with escapement requirements that vary with run size for the Early Stuart, Early Summer, and Summer run aggregates, in addition to the 20% fixed exploitation rate limit for Late-run and Cultus, would provide a more flexible approach to management in 2008.

In past years, the Fraser River sockeye spawning targets were based upon a Rebuilding Strategy which was developed in 1987. Due to some shortcomings in this approach, the Department adopted a new escapement strategy for Fraser River sockeye in 2005 using the approach known as the Fraser River Sockeye Spawning Initiative. The escapement strategy has been modified as a result of a series of yearly consultation workshops beginning in the spring of 2006 and continuing through to 2008.

The Canadian fishing plan also addressed conservation specific-concerns for: LGS Chinook, Interior Fraser River coho, Early Stuart sockeye, Cultus Lake sockeye and Late run sockeye, Sakinaw Lake sockeye, West Coast Vancouver Island Chinook, Interior Fraser River steelhead, Nimpkish sockeye, spring and summer yearling Fraser River Chinook, and Inshore Rockfish.

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[3] The DBE is the difference in sockeye passage estimates at Mission and escapement estimates on the spawning grounds when accounting for all catch between Mission and the spawning grounds. The DBE would include measurement errors in Mission estimates, catch estimates and spawning ground assessments as well as en-route mortality.

Sockeye catch and release information from all fisheries can be found in Table 17.

In-Season Assessment

The main challenge facing the Fraser Panel in 2008 was the assessment of in-season run size while, as the season progressed, observing run timings that were either near historically observed or record early timing to the Fraser River.

Table 1 Chronology of run size changes through 2008. Decisions to open the commercial and recreational fisheries occurred on 25-July and to close fisheries on 29-July.

	Pre-season	Jul-22	Jul-29	Aug-01	Aug-05
E. Stuart	35,000	35,000	***40,000***	40,000	40,000
E. Summer	349,000	***500,000***	***425,000***	425,000	425,000
Summer	1,810,000	1,810,000	***1,182,000***	***800,000***	***875,000***
Birkenhead	331,000	331,000	331,000	***137,000***	***50,000***
Harrison	47,000	47,000	47,000	47,000	47,000
L. Lates	327,000	327,000	327,000	***242,000***	***136,000***

Note: bold represents run size changes

Table 2 Timing estimates used for pre-season planning and final in-season estimates of timing by stock group relative to historical observations.

	Pre-season	Final In-season	# Days Diff.	Earliest Historic*
E. Stuart	Jun-30	Jun-28	-2	Jun-27
E. Summer	Jul-24	Jul-15	-9	Jul-19
Summer	Jul-30	Jul-25	-5	Jul-29
Birkenhead	Aug-06	Aug-06	0	n/a
Harrison	Jul-30	Jul-22	-8	n/a
L. Lates	Aug-07	Aug-03	-4	Aug-06

* for the 04/05 cycle line since 1976

Timing for all stock groups, with the exception of Birkenhead, were earlier than the pre-season estimates. Timing for the Early Summer, Summer-run and the Late-run aggregates were 3 or 4 days earlier than historically observed.

Table 3 The final in-season estimated returns of Fraser River sockeye compared to the forecasts used for pre-season planning purposes.

Run Timing Group	**Pre season forecast (50% probability forecast)**	**Final In-Season estimate of run size (22-Sep-2008)**
Early Stuart	35,000	40,000
Early Summer	349,000	450,000
Mid-Summer	1,810,000	980,000
Late Run	705,000	245,000
Total Fraser sockeye	***2,899,000***	***1,715,000***

In addition to directed FSC fisheries in Canada there were small commercial and recreational fishery openings directed on Fraser River sockeye in 2008. There were also sockeye directed Treaty Indian Ceremonial, Treaty Indian and non-Treaty commercial fisheries in US waters. The final in-season estimated proxy exploitation rate on Late- run and Cultus Lake sockeye was estimated at 16.0% and 13.8%, respectively. Final estimates should be available in late January, 2009.

The diversion rate of sockeye through Johnstone Strait was much lower than forecast and was estimated to be 10% in 2008. Figure 1 below describes 2008 test-fishery CPUE compared to historical CPUE in both approach areas. The low diversion rate of sockeye through Johnstone Strait limited the ability to harvest sockeye in this approach area.

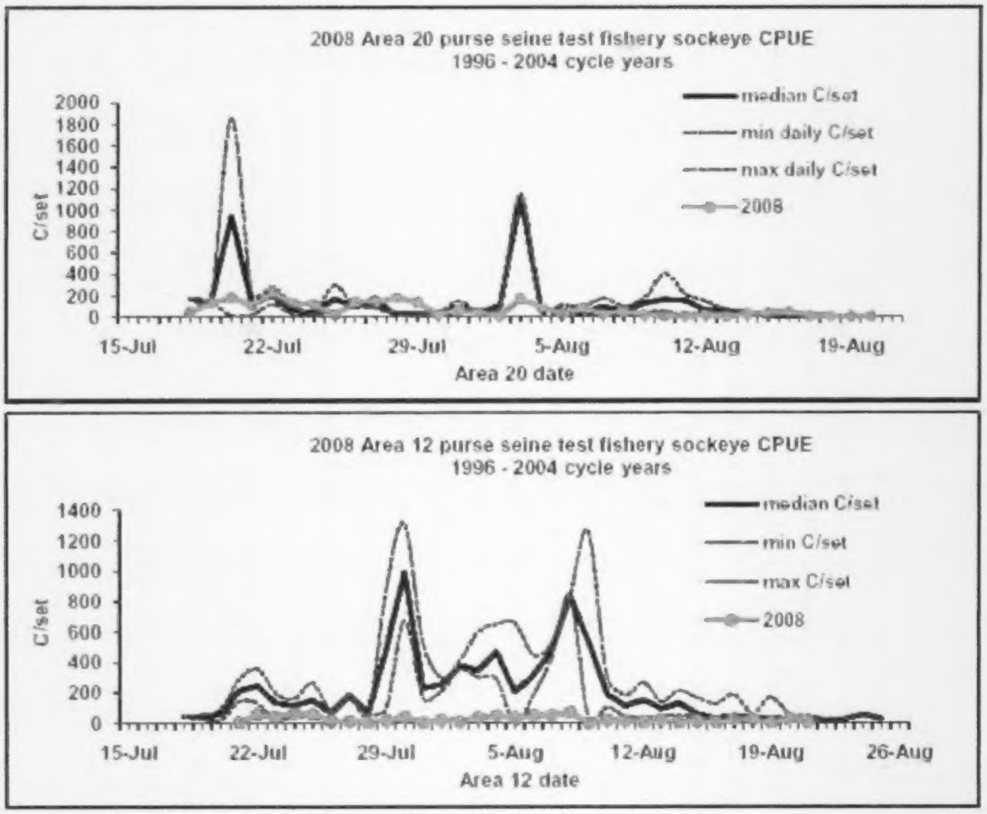


Figure 1 Test-fishery CPUE vs historical CPUE in Areas 12 and 20.

Fisheries

In response to low expected abundances and conservation needs for Early Stuart, Early Summer-run and Late-run sockeye, it was expected that any commercial and recreational fishery opportunities would be directed at Summer-run sockeye. At the beginning of the season, harvest opportunities on Summers for all fisheries, including food, social and ceremonial (FSC), would be limited at the front end of their migration by a closure to protect Early Stuart sockeye. Fisheries would be constrained further when considering Late-run and Cultus impacts, as well as conservation objectives for other stocks and species.

On July 25th openings for commercial and recreational fisheries were initiated. At this time in-season assessments for Early Stuart and Early Summer sockeye appeared to be earlier in timing and at or greater than the 50% probability level forecast, and Summer-run sockeye appeared to be following this pattern as well. At these run sizes, there was limited commercial and recreational TAC available to Canada and the United States. Due to uncertainty in return timing and run size assessments, the Fraser Panel agreed to initiate small precautionary ITQ commercial fisheries by Area B seine and Area H troll and a short duration commercial fishery opening by Area D gillnet. Recreational fishery openings on sockeye were also initiated in tidal and non-tidal waters and non-Treaty Indian fisheries in US Fraser River Panel waters were also opened. On July 29th run sizes for both Early Summer and Summer-run sockeye were reduced and the commercial and recreational fisheries were closed shortly after. A chronology of run size changes before and after commercial and recreational fisheries were initiated on July 25, 2008, is shown in Table 1.

FSC fisheries in Canada opened soon after the window closure to protect the Early Stuart sockeye ended. Most First Nations did not achieve FSC catch objectives in 2008. The marine FSC catch was particularly poor, relative to targets, due to low abundance and a low diversion rate through Johnstone Strait.

Fisheries in the United States Fraser River Panel area waters were opened on July 19th and closed on August 1st.

Preliminary sockeye catch harvest levels for 2008 are documented in Table 4 and Table 17.

Table 4 Preliminary estimates of Fraser River sockeye catch, 2008.

Total Fraser Sockeye Caught	**571,300**
Test fisheries	41,300
Canadian Catch	**480,200**
Canadian First Nation FSC fisheries- Marine	31,600
Canadian First Nation FSC fisheries- Fraser	415,000
Canadian commercial fisheries (includes commercial selective & FN economic)	17,000
Canadian recreational fisheries	16,600
United States Catch	**49,800**
U.S. Treaty Indian & non-treaty Indian fisheries	48,400
U.S. Treaty Indian ceremonial fisheries	1,400

Note: The catch estimates tabled above are preliminary estimates as of December 19, 2008.

Stock Status

Environmental conditions this summer were favorable for sockeye passage. Preliminary spawning escapement estimates compared to in-season escapement targets at the final in-season run size are shown in the table below. Table 5 shows the projected escapement estimates to the spawning grounds, which incorporates the estimated escapement past Mission, minus the catch above Mission, and an adjustment for projected differences between estimates (based on river conditions for Early Stuart, Early Summer and Summer-run management groups and on the 50% date at Mission for Late-run sockeye). Although the escapement goal was not achieved for Early Stuart sockeye, preliminary escapement estimates indicate a good return relative to the brood year which is counter to recent trends (brood escapement 2004: 9,300 adult sockeye). Preliminary escapement estimates for the Early Summer aggregate appear to have surpassed the escapement goal however; preliminary assessments indicate high levels of pre-spawn mortality for most stocks. A summary of preliminary spawning ground assessments for Summer-run, Birkenhead and Late-run sockeye will be available in January, 2009. Early indications are that pre-spawn mortality levels will be higher than usual for these runs, as well.

Table 5 2008 escapement estimates.

Management Group	Escapement Goal at the final in-season run size [a]	Projected Escapement [b]	Preliminary Spawning Escapement [c]	Pre-Spawn Mortality [c] (PSM)	Effective Spawners [d]	Effective Females [c]
Early Stuart	40,000	21,400	29,914	12.1%	26,294	14,440
Early Summer	180,000	307,100	188,796	54.7%	85,525	43,705
Summer	520,000	591,900	564,513	30.5%	392,337	213,221
Birkenhead+ [e]	29,200	54,600	22,561	34.0%	14,890	7,708
L.Lates	152,000	12,000	10,269	16.6%	8,564	5,208
Total	**921,200**	**987,000**	**816,053**	**35.1%**	**527,610**	**284,282**

[a] Escapement goals at the in-season run sizes agreed to by the Fraser Panel on August 26th 2008.

[b] Projected escapements=(run size - catch) * (1-projected difference between estimates)
run size as of the last in-season Panel meeting on 26-Aug-2008, catch & projected DBE on 12-Jan-2009

[c] As of January 12th 2009.

[d] Effective spawners= preliminary spawning escapement * (1-PSM). This calculation assumes PSM affects males and females equally and a 50:50 male/female sex ratio.

[e] includes stocks such as Cogburn, Poole, and Big Silver.

Fraser River Pink Salmon

Pink salmon return to the Fraser River in significant numbers on odd years only; therefore, in 2008 there was a negligible number of pink salmon that returned to the Fraser River.

Southern B.C. AABM Chinook Salmon

Objectives and Overview

Chinook fisheries are managed by either an AABM (aggregate abundance-based management) or ISBM (individual stock-based management) regime. Allowable harvest impacts in AABM areas are determined by provisions in the Pacific Salmon Treaty (PST) and subject to domestic considerations, such as conservation and allocation. In Southern BC, all AABM chinook fisheries are located off the WCVI, including components of the recreational fishery, First Nations fisheries, and the WCVI Area G troll fishery.

For the period October 2007 through September 2008, the forecast chinook abundance index was 0.76 of the PST base period. Therefore, under treaty provisions, the maximum allowable catch was 162,600 chinook for WCVI AABM fisheries. Further considerations for managing chinook catch in WCVI AABM fisheries are driven by concerns regarding the low status of natural WCVI, Lower Strait of Georgia (LGS), and early-timed Upper Fraser River chinook populations.

Ocean fisheries in Canada that intercept WCVI chinook are limited to a 10% exploitation rate, even if PST provisions allow for a higher catch. Management measures are in place to reduce the impact of fisheries on WCVI chinook while still providing harvest opportunities.

Additional efforts were made in 2008 to reduce the marine harvest rate of fisheries that intercept a number of other low status chinook populations. Specifically, the total WCVI troll TAC was reduced by 20% to limit the impact of the fishery on LGS chinook. Further constraints in the form of time and area limits were introduced in the troll fishery to protect early-timed Fraser River chinook stocks.

AABM chinook catch and release information from all fisheries can be found in Table 19.

Table 6 Pre-season and post-season total allowable and preliminary catch estimates for October 2007 – September 2008 WCVI AABM Chinook fisheries.

	Pre-Season	Post-Season
WCVI AABM Abundance Index	0.76	under review
WCVI AABM Chinook TAC	162,600	under review
Offshore Recreational Catch	50,000	50,319
First Nations Catch	5,000	3,794
Area G Troll Catch	107,600 + 3,500[a] = 111,100 (0.8)[b] = **88,880**	89,704
Total AABM Catch		**143,817**

[a] In-season it was estimated that 3,500 chinook would remain uncaught by the recreational fleet during the 2007-2008 AABM fishery. This amount was applied to the Area G Troll TAC.

[b] The total Area G troll TAC was reduced by 20% to limit impacts on LGS Chinook.

Table 7 Post-season preliminary monthly catch estimates for 2005/06 to 2007/08 WCVI AABM chinook commercial troll fisheries.

	2007/2008	2006/2007	2005/2006
October	3,137	16,000	12,198
November	0	1,200	2,156
December	0	800	1,689
January	1,634	5,500	1,468
February	1,911	2,600	5,154
March	0	2,300	7,883
April	1,717	5,200	20,561
May	11,105	23,500	7,078
June	15,944	25,000	20,807
July	0	0	0
August	9,099*	0	886*
September	45,157	6,000	24,098
Total	**89,704**	**88,100**	**103,978**

* Plug fishery

Recreational

Fishing regulations in WCVI recreational AABM areas include barbless hook requirements to lower post-release mortality on sub-legal size chinook (less than 45 cm), and a daily bag limit of two chinook. Additional conservation measures include the '77 cm maximum size limit', imposed in those portions of Areas 124-127 that lie shoreward of a line drawn 1-mile seaward of the surfline. This area is commonly referred to as the 'chinook corridor', and is in place to protect migrating WCVI origin chinook. Prior to 2008, recreational harvesters were permitted to retain one chinook over 77 cm and one chinook under 77 cm, per day. In 2008, this regulation was changed; retention of chinook over 77 cm was not permitted within the chinook corridor and extending inside the surfline in some areas.

Catch in the WCVI recreational fishery is estimated through a creel survey, which collects effort (number of boat trips), and catch per unit effort (CPUE) data. Catch for any given species within a defined time-area stratum is estimated by multiplying effort by CPUE. Total effort is estimated through vessel counts, gathered through either aerial or boat surveys of the fishing area. CPUE is estimated from interviews with anglers at specific landing sites and from trip logbooks and manifests submitted by lodges and guides through a voluntary monitoring program. Data regarding the daily activity profile of the fishery, fishing locations, and the proportion of guided versus un-guided effort are also gathered from angler interviews.

Creel observers conducted 9,505 fishing interviews at 20 landing sites along the WCVI from the beginning of June to the end of September during the 2008 salmon fishing season. Effort was 31,168 boat trips in AABM areas, and a total of 64,281 boat trips for all of WCVI. Thus, sampling coverage of the 2008 WCVI creel program (AABM and ISBM combined) was approximately 15% based on unit effort.

Total recreational catch and release in the 2008 WCVI AABM fishery was approximately 50,319 and 21,939 chinook, respectively, during the survey period (June-Sept). There was some additional catch during winter fisheries that occurs in near-shore areas. However, catch was very low because inclement weather, smaller fish and low CPUE deters anglers. Overall, previous sampling has indicated that there is virtually no effort during this period.

The 2008 AABM catch represents an increase of approximately 9% relative to 2007. However, effort in AABM areas decreased by approximately 17%.

Table 8 Estimated WCVI recreational AABM effort, chinook catch, and total chinook releases by PFMA, 2008.

	Area	AABM Effort (Boat Trips)	AABM Chinook Catch	AABM Total Chinook Releases
	Port Renfrew (21)	479	492	27
	Alberni Inlet (23)	743	-	-
	Barkley Sound (23)	5,286	6,106	2,255
	Clayoquot (24)	731	450	123
	Nootka (25)	628	226	59
	Kyoquot (26)	34	99	-
	Quatsino (27)	322	8	-
	Subtotal	8,223	7,382	2,464
Offshore	**Area 121**	2,006	3,318	675
	Area 123	9,269	16,108	8,708
	Area 124	2,862	9,118	7,236
	Area 125	3,575	5,406	2,088
	Area 126	1,360	4,481	-
	Area 127	3,872	4,507	768
	Subtotal	22,945	42,938	19,475
WCVI	**Total**	31,168	50,319	21,939

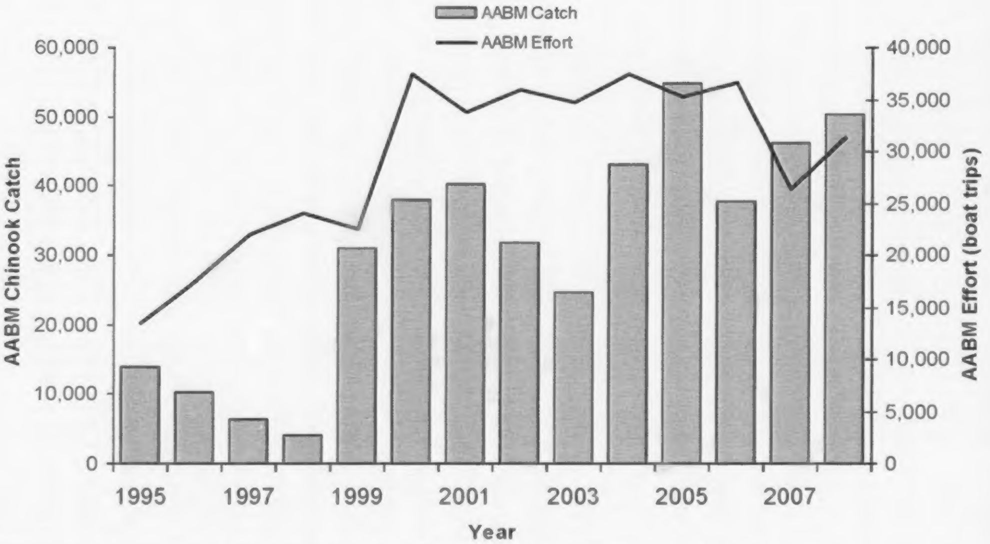


Figure 2 Recreational WCVI chinook AABM catch and effort, 1995-2008.

First Nations

The 2007/2008 First Nations AABM chinook catch was estimated to be 3,794.

Commercial

After the completion of the 2008 CTC chinook model calibration, the AABM Canadian allowable harvest was 162,600. It was anticipated that the FSC harvest would be 5,000; and that the recreational catch would be 50,000, leaving 107,600 available to plan for commercial harvest by Area G troll.

For the 2007/2008 chinook year, fisheries continued to be shaped by conservation concerns for the following domestic stocks: early-timed Fraser River chinook, Interior Fraser River coho, WCVI origin chinook salmon, and LGS chinook. As well, additional management measures were introduced in-season to protect spring and summer-run Fraser River chinook stocks that were observed to be returning at very low levels. The following management measures were used to protect these domestic stocks:

- To protect the early-timed Fraser River chinook, the WCVI troll fishery was limited to a catch ceiling of 13,000 chinook in the period March to May. As well, the fishery was restricted to the areas north of Estevan Point (Areas 125 – 127) during March and April.
- To limit impacts on low status spring/summer-run Fraser River chinook stocks, troll effort in the months of June and July was restricted to a two week fishery in early June.
- For LGS chinook, the pre-season management objective was to reduce the annual exploitation rate on LGS chinook by 10% of the recent year's average from 2001/02 to 2006/07. In the previous fishing year, troll fishery impacts were restricted by limiting in-season Cowichan coded wire tag (CWT) recoveries. In

2008, a more certain approach of reducing the overall Area G troll exploitation rate on LGS stock chinook was adopted by reducing the TAC by 20%.

- To ensure protection for local WCVI chinook stocks, the August troll fishery took place 5 nautical miles seaward of the surfline and harvest was limited to 10,000 chinook.

For all troll fisheries, selective fishing practices were mandatory, including single barbless hooks and "revival tanks" for resuscitating non-retention species prior to release.

Since 1999, a major objective for the management of the WCVI troll fishery has been to distribute the catch throughout the fall-winter-spring-summer periods. This objective was continued in 2007/2008.

Fisheries were also monitored to determine encounter rates of other species and estimate numbers of released chinook. Biological sampling was conducted for size distributions, and stock compositions (via CWT, DNA and otolith samples).

Southern BC Chinook ISBM

Objectives and Overview

In addition to the PST regime, Canada implemented management actions as required to ensure conservation of Canadian origin chinook and to meet domestic allocation requirements. These chinook fisheries were managed to harvest rates on an individual stock basis (ISBM).

Measures were taken in 2008 to protect WCVI, LGS, early-timed Upper Fraser River chinook stocks, and spring/summer-run Fraser River chinook stocks. Specific management actions were taken to protect WCVI origin chinook in Canadian ocean fisheries (not including enhanced terminal areas), the harvest of which was restricted to an exploitation rate of 10% of the return to Canada. Most Southern BC commercial fisheries were regulated so that impact on WCVI wild chinook stocks was minimized. Robertson Creek hatchery-origin chinooks were harvested in the terminal area of Alberni Inlet by First Nations, recreational and commercial net fisheries.

LGS chinook stocks are experiencing a period of low productivity and management measures continue to be in place throughout 2008 to protect these stocks. As in recent years, recreational chinook non-retention areas and finfish closures were in place throughout the Strait of Georgia to reduce impacts at critical times and in key areas. As in recent years, commercial retention of chinook was not permitted in the Strait of Georgia and in Johnstone Strait.

In addition to these specific restrictions, in 2008 area and time closures were in place to protect returning early-timed upper Fraser River chinook and spring/summer-run chinook stocks during sport and commercial fisheries. There was a general requirement in all commercial fisheries to apply selective fishing techniques, including area and gear restrictions and the mandatory use of revival tanks. Catch monitoring included requirements for daily catch reporting, mandatory logbooks, hailing catches on a regular basis, and independent on-board observers on vessels when requested. Post-release mortality information for chinook included in ISBM management was determined from studies conducted in 2000-2001 and detailed in the Canadian Stock Assessment Secretariat, Research Document 99/128 (CSAS, Doc 99/128).

ISBM chinook catch and release information from all fisheries can be found in Table 20.

Recreational

West Coast Vancouver Island

The WCVI ISBM chinook sport fishery was regulated using minimum/maximum size limits, possession limits and area closures to reduce impacts of the recreational fishery on natural (un-enhanced) WCVI chinook stocks. Daily bag limits were two chinook per day. Regulations in 2008 required chinook retained within the chinook corridor exceed a minimum fork length of 45cm, and be smaller than the maximum size limit of 77cm. This restriction was in effect commencing July 15th for those waters north of Estevan Point and commencing August 1st for those waters south of Estevan Point. Retention of chinook greater than 77cm was permitted in some terminal areas with a high percentage of returning hatchery origin fish. Area restrictions include areas "closed to salmon fishing" or "closed to all fin fishing", depending on the vulnerability of local stocks of concern. These closed areas were expanded in 2008.

Total recreational chinook catch and release by the 2008 WCVI ISBM fishery was approximately 24,381 and 8,750, respectively, from 33,113 boat trips. The 2008 catch represents a decrease of approximately 31% relative to 2007, and total fishing effort in WCVI ISBM areas decreased by approximately 5% from 2007.

Table 9 Estimated WCVI Recreational ISBM Effort, chinook catch, and total chinook releases by PFMA, 2008.

	Area	ISBM Effort (Boat Trips)	ISBM Chinook Catch	ISBM Total Chinook Releases
Inshore	**Port Renfrew (21)**	195	305	6
	Alberni Inlet (23)	6,742	5,112	408
	Barkley Sound (23)	12,494	10,272	5,508
	Clayoquot (24)	304	67	66
	Nootka (25)	9,783	6,003	2,100
	Kyoquot (26)	435	1,351	-
	Quatsino (27)	3,159	1,271	662
	Subtotal	33,113	24,381	8,750
Offshore	**Area 121**	-	-	-
	Area 123	-	-	-
	Area 124	-	-	-
	Area 125	-	-	-
	Area 126	-	-	-
	Area 127	-	-	-
	Subtotal	-	-	-
WCVI	**Total**	33,113	24,381	8,750

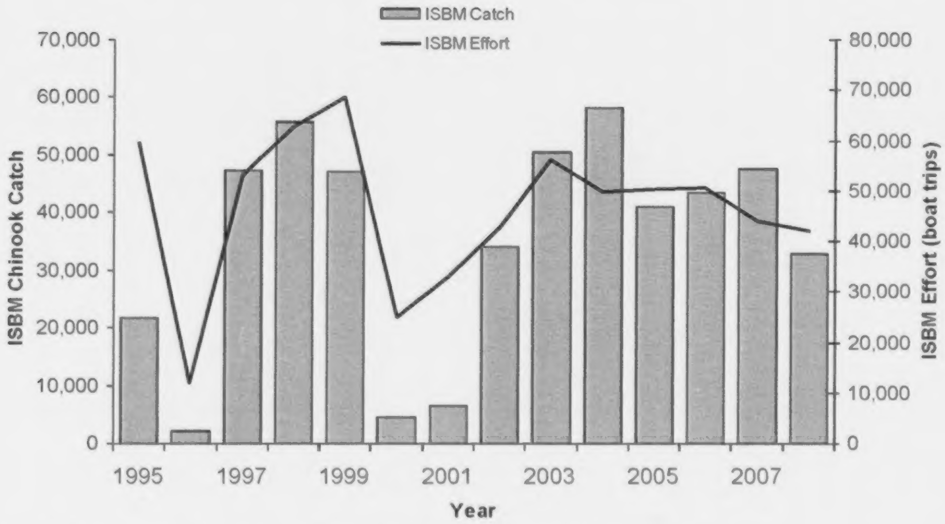


Figure 3 Recreational WCVI chinook ISBM Catch and Effort, 1995-2008.

Note: To be consistent with historical data, 2008 catch and effort estimates include the West Coast portion of Juan de Fuca Strait, Area 20.

Inside Areas: Strait of Georgia, Johnstone Strait, and Juan de Fuca Strait

For Johnstone Strait and the Strait of Georgia north of Cadboro Point, sport catch regulations included an annual bag limit of 15, a daily bag limit of two and a size limit of 62 cm. For the Canadian portion of Juan de Fuca Strait south of Cadboro Point, the daily bag limit was two chinook over 45 cm and a seasonal limit of 20 chinook was in effect.

In 2008 marine recreational fisheries were monitored by creel surveys in three main areas; 1) Juan de Fuca including Victoria (south of Cadboro Point) and Juan de Fuca Strait through PFMA 20-1; 2) Strait of Georgia including Areas 14 through 18, that portion of Area 19 north of Cadboro Point, 28 and 29 and 3) Johnstone Strait including Areas 11 to 13. Monitoring of the Strait of Georgia sport fishery (April to October) and Juan de Fuca Strait sport fishery (January to December) has been fairly consistent from year to year using an access point (landing site) survey for collecting catch, CPUE, and biological information combined with an aerial survey for effort counts. The Johnstone Strait creel survey commenced in Area 13 in April and continued through until October; it was expanded from June through August to include Areas 11 and 12.

Overall, effort in the Strait of Georgia declined by more than 50% from 2007 to 2008. The corresponding catch declined approximately 40%. Juan de Fuca Strait effort decreased by approximately 25% and the catch also declined by nearly 25% compared with 2007. As part of these creel surveys, encounter rate information was also collected for legal and sub-legal chinook and coho. Releases of chinook in the Strait of Georgia and Juan de Fuca Strait were significantly lower in 2008.

Table 10. Preliminary estimates of catch and effort for 2008 inside recreational ISBM fisheries.

Fishing Area	Survey Period	Chinook Kept	Chinook Released	Effort (Boat Trips)
Strait of Georgia	Apr - Oct	3,890	6,849	29,537
Johnstone Strait	Apr - Oct	9,047	6,434	33,032
Juan de Fuca Strait	Jan-Oct	20,467	5,369	41,624
Fraser River	May - Oct	18,739	13,229	n/a
TOTAL		**52,143**	**31,881**	**104,193**

First Nations Fisheries

WCVI FSC and Economic Opportunity Fisheries

An agreement was reached in 2008 with the Hupacasath and Tseshaht First Nations for an economic fishery targeting Somass chinook (Area 23). Hupacasath and Tseshaht First Nations harvested 11,959 chinook in upper Alberni Inlet. A further 200 chinook were harvested by the Mowachat as well for a total ISBM chinook catch of 12,159

Strait of Georgia FSC Fisheries

Data are still being compiled on various First Nations catches in the Strait of Georgia, however preliminary catch is estimated at 769 chinook.

Fraser River FSC and Economic Opportunity Fisheries

FSC fisheries, as well as economic opportunity fisheries took place in the Fraser River in 2008 harvesting ISBM chinook in the both the upper and lower reaches of the Fraser River. Approximately 5,673 chinook were harvested by First Nations in the upper river FSC and economic opportunity fisheries, and approximately 26,145 chinook were harvested in the lower river; for a total chinook harvest of 31,818.

Commercial Fisheries

In 2008 several commercial fisheries targeted ISBM chinook including gillnet and seine fisheries in Alberni Inlet.

Area B Seine

In 2008, seine fisheries occurred on August 25th and 26th, September 2nd, 3rd, 8th, and 9th in upper Alberni Inlet targeting Somass chinook. Five vessels fished during these openings with a total chinook catch of 3,409 chinooks.

Area D gill net

In 2008, gill net fisheries occurred on August 24th, September 3rd and 9th in upper Alberni Inlet (Area 23) targeting Somass chinook. An average of 82 vessels participated in the first two openings, and an average 25 vessels participated in the last two openings. The total Area D gill net chinook catch was 4,848.

Stock Status

Fraser River and Area Chinook

Interior Fraser

All early spring chinook returns were poor to very poor, although some such as Coldwater improved over 2007. Spius, Louis and Chilako Rivers all had critically low returns of fewer than 200 spawners. Most escapements for the upper river and later lower Thompson spring populations were again well below their parental brood escapements; for example, escapement in the Nicola is estimated at 4,150 spawners from a parental brood of over 7,850. On average, the five year old upper river stocks returned at about 35% of parental brood escapements while the four year old Thompson stocks returned at an average of about 50% of the parental brood. Spawning and counting conditions were reasonable and little to no pre-spawn mortality was observed.

Yearling summer chinook returns were poor and below brood escapements. Summer returns also averaged only 35% of parental brood for the stream-type stocks (Chilko ~5,180; Quesnel ~1,380; and Clearwater ~3,400). In contrast, the late South Thompson ocean-type aggregate was strong again, averaging ~ 200% of brood escapements. South Thompson had escapement of ~ 76,000; Lower Adams (3,500) and Little River (11,500).

Lower Fraser

Spring-run: Lower Fraser Spring chinook returns continue to be poor, including returns to Birkenhead River (~225). Visual surveys of the escapement to the upper Pitt River were conducted in 2008; preliminary estimates of adult chinook escapement to this system are poor at only 198.

Information for other populations is unavailable at this time.

Summer-run: Summer-run chinook returns to Maria Slough were assessed visually in 2008. The escapement of ~580 is less than the previous year (~650). Information for other summer populations is not available at this time.

Fall-run: Annual lower Fraser River fall-run chinook stock group escapements are, on average, large (>100,000). The major contributor and principal focus of assessment of this stock group is Chinook returning to the Harrison River, and Harrison River transplants to the Chilliwack River. For both the Harrison and Chilliwack Rivers, the field study portions of the escapement assessments are complete; however analyses are ongoing. Extreme rain events significantly raised water levels in these systems making in-season assessments difficult. Preliminary escapement estimates are not yet available.

Howe Sound/Squamish River:

No information is available at this time.

Burrard Inlet:

Returns of fall-run chinook to the Capilano Hatchery (i.e. swim-ins) were 911 adults and 131 jacks (~1040 total).

Boundary Bay:

Escapement data are unavailable at present.

Strait of Georgia Chinook

First Nations fisheries for chum were not restricted and several First Nations reported catch. The preliminary estimated catch by First Nations in the Johnstone Strait area is estimated at 13,100 chum salmon.

Fraser River chum returns coincide with Interior Fraser coho and Interior Fraser steelhead runs. Therefore, commercial Gillnet Chum fisheries in the Fraser River are severely limited by conservation concerns for Interior Fraser (including Thompson River) coho and Interior Fraser steelhead. The catch of Fraser River chum in fisheries that take place outside the Fraser River has not yet been determined.

Table 18 Preliminary 2008 South Coast pink catch by fishery and area.

Fishery	Gear	Fishery (Area)	Numbers	
			Kept	Released
Commercial	Area G Troll	WCVI Chinook (23 - 27, 123 - 127)	10	45
	Area H Troll	Fraser Sockeye (12,13,18)	280	63
	Area H Troll	JST Chum (12,13)	1	13
	Area H Troll	MVI Chum (14)	0	0
	Area H Troll	Fraser Chum (29)	0	0
	Area B Seine	Fraser Sockeye (12,13)	3,363	0
	Area B Seine	Fraser Sockeye (20)	37	0
	Area B Seine	Somass Chinook (23)	0	0
	Area B Seine	Nitinat Chum (21)	0	0
	Area B Seine	JST Chum (12,13)	29	12
	Area B Seine	MVI Chum (18)	0	0
	Area D Gillnet	Fraser Sockeye (12,13)	4,084	57
	Area D Gillnet	Somass Chinook (23)	0	0
	Area D Gillnet	Nootka Chum (25)	0	0
	Area D Gillnet	Esperenza Chum (25)	0	0
	Area D Gillnet	Clayoquot Chum (24)	0	0
	Area D Gillnet	Barkley Chum (23)	0	0
	Area D Gillnet	JST Chum (12,13)	6	9
	Area D Gillnet	MVI Chum (14)	0	0
	Area E Gillnet	MVI Chum (17)	0	0
	Area E Gillnet	MVI Chum (18)	0	0
	Area E Gillnet	Nitinat Chum (21)	0	0
	Area E Gillnet	Fraser Chum (29)	0	0
Total Commercial Catch			7,810	199
Recreational	Sport	Juan de Fuca	123	120
	Sport	Strait of Georgia	14	169
	Sport	Johnstone Strait	7,147	1,752
	Sport	WCVI	905	100
	Sport	Fraser River	0	0
Total Recreational Catch			8,189	2,141
First Nations FSC		Johnstone Strait	2,975	0
		Strait of Georgia	35	0
		WCVI	6	0
		Fraser River	7	0
Total First Nations FSC Catch			3,023	0
TOTAL - ALL FISHERIES			19,022	2,340

Table 19. Preliminary 2008 WCVI AABM chinook catch by fishery and area.

PST Regime	Fishery	Month	Numbers	
			Kept	Released
WCVI-AABM	Area G Troll	Oct-07	3,137	1,464
		Nov-07	0	0
		Dec-07	0	0
		Jan-08	1,634	250
		Feb-08	1,911	266
		Mar-08	0	0
		Apr-08	1,717	41
		May-08	11,105	141
		Jun-08	15,944	362
		Jul-08	0	0
		Aug-08	9,099	174
		Sep-08	45,157	4,583
Troll Total			**89,704**	**7,281**
	Outside Sport	Jun-08	6,380	1,336
	Outside Sport	Jul-08	19,775	6,219
	Outside Sport	Aug-08	22,035	13,376
	Outside Sport	Sep-08	2,129	1,008
Sport Total			**50,319**	**21,939**
First Nations	Johnstone Strait			
First Nations	Strait of Georgia			
First Nations	WCVI Offshore		3,794	0
First Nations	WCVI Inshore			
First Nations	Fraser River			
First Nations Total			**3,794**	**0**
AABM Total			**143,821**	**29,220**

Table 20. Preliminary 2008 South Coast ISBM chinook catch by fishery and area.

Fishery	Gear	Fishery (Area)	Numbers	
			Kept	Released
ISBM	Area G Troll	WCVI Chinook (23 - 27, 123 - 127)		
	Area H Troll	Fraser Sockeye (12,13,18)	0	0
	Area H Troll	JST Chum (12,13)	0	7
	Area H Troll	MVI Chum (14)	0	0
	Area H Troll	Fraser Chum (29)	0	0
	Area B Seine	Fraser Sockeye (12,13)	0	49
	Area B Seine	Fraser Sockeye (20)	0	50
	Area B Seine	Somass Chinook (23)	3,409	0
	Area B Seine	Nitinat Chum (21)	0	7
	Area B Seine	JST Chum (12,13)	0	33
	Area B Seine	MVI Chum (18)	0	0
	Area D Gillnet	Fraser Sockeye (12,13)	0	16
	Area D Gillnet	Somass Chinook (23)	4,848	2
	Area D Gillnet	Nootka Chum (25)	0	2
	Area D Gillnet	Esperenza Chum (25)	0	0
	Area D Gillnet	Clayoquot Chum (24)	0	0
	Area D Gillnet	Barkley Chum (23)	0	1
	Area D Gillnet	JST Chum (12,13)	0	21
	Area D Gillnet	MVI Chum (14)	0	0
	Area E Gillnet	MVI Chum (17)	0	0
	Area E Gillnet	MVI Chum (18)	0	0
	Area E Gillnet	Nitinat Chum (21)	0	3
	Area E Gillnet	Fraser Chum (29)	10	19
Total Commercial Catch			**8,267**	**210**
Recreational	Sport	Juan de Fuca	20,467	5,369
	Sport	Strait of Georgia	3,890	6,849
	Sport	Johnstone Strait	9,047	6,434
	Sport	WCVI	24,381	8,750
	Sport	Fraser River	18,739	13,229
Total Recreational Catch			**76,524**	**40,631**
First Nations FSC		Johnstone Strait	324	0
		Strait of Georgia	769	0
		WCVI	12,159	0
		Fraser River	25,722	41
Total First Nations FSC Catch			**38,974**	**41**
First Nations EO		Johnstone Strait	-	-
		Strait of Georgia	-	-
		WCVI	-	-
		Fraser River	879	17
Total First Nations EO Catch			**879**	**17**
First Nations ESSR		Johnstone Strait	-	-
		Strait of Georgia*	4,079	-
		WCVI	-	-
		Fraser River	5,217	0
Total First Nations ESSR Catch			**9,296**	**0**
TOTAL - ALL FISHERIES			133,940	40,899

*Number includes both adults and jacks; FSC & ESSR combined.

Table 21. Preliminary 2008 South Coast coho catch by fishery and area.

Fishery	Gear	Fishery (Area)	Numbers	
			Kept	Released
Commercial	Area G Troll	WCVI Chinook (23 - 27, 123 - 127)	369	9,011
	Area H Troll	Fraser Sockeye (12,13,18)	5	3
	Area H Troll	JST Chum (12,13)	0	118
	Area H Troll	MVI Chum (14)	0	0
	Area H Troll	Fraser Chum (29)	0	0
	Area B Seine	Fraser Sockeye (12,13)	0	66
	Area B Seine	Fraser Sockeye (20)	0	12
	Area B Seine	Somass Chinook (23)	3,437	0
	Area B Seine	Nitinat Chum (21)	0	135
	Area B Seine	JST Chum (12,13)	6	640
	Area B Seine	MVI Chum (18)	0	0
	Area D Gillnet	Fraser Sockeye (12,13)	0	152
	Area D Gillnet	Somass Chinook (23)	805	4
	Area D Gillnet	Nootka Chum (25)	325	1
	Area D Gillnet	Esperenza Chum (25)	308	1
	Area D Gillnet	Clayoquot Chum (24)	0	24
	Area D Gillnet	Barkley Chum (23)	95	2
	Area D Gillnet	JST Chum (12,13)	0	627
	Area D Gillnet	MVI Chum (14)	0	32
	Area E Gillnet	MVI Chum (17)	0	1
	Area E Gillnet	MVI Chum (18)	0	0
	Area E Gillnet	Nitinat Chum (21)	4	144
	Area E Gillnet	Fraser Chum (29)	0	92
Total Commercial Catch			**5,354**	**11,065**
Recreational	Sport	Juan de Fuca	1,235	2,741
	Sport	Strait of Georgia	233	637
	Sport	Johnstone Strait	1,245	3,640
	Sport	WCVI - Inside Retention	15,143	5,105
	Sport	WCVI - MSF	12,606	22,204
	Sport	Fraser River	2,798	2,808
Total Recreational Catch			**33,260**	**37,135**
First Nations FSC		Johnstone Strait	250	0
		Strait of Georgia	-	-
		WCVI	3,354	0
		Fraser River	252	38
Total First Nations FSC Catch			**3,856**	**38**
First Nations EO		Johnstone Strait	-	-
		Strait of Georgia	-	-
		WCVI	2,699	0
		Fraser River	108	278
Total First Nations EO Catch			**2,807**	**278**
First Nations ESSR		Johnstone Strait	-	-
		Strait of Georgia	95	0
		WCVI	9,643	0
		Fraser River	12,153	0
Total First Nations ESSR Catch			**21,891**	**0**
TOTAL - ALL FISHERIES			**67,168**	**48,516**

Table 22. Preliminary 2008 South Coast chum catch by fishery and area.

Fishery	Gear	Fishery (Area)	Numbers	
			Kept	Released
Commercial	Area G Troll	WCVI Chinook (23 - 27, 123 - 127)	319	16
	Area H Troll	Fraser Sockeye (12,13,18)	0	0
	Area H Troll	JST Chum (12,13)	21,297	20
	Area H Troll	MVI Chum (14)		
	Area H Troll	Fraser Chum (29)	0	0
	Area B Seine	Fraser Sockeye (12,13)	61	0
	Area B Seine	Fraser Sockeye (20)	0	20
	Area B Seine	Somass Chinook (23)	0	26
	Area B Seine	Nitinat Chum (21)	18,796	0
	Area B Seine	JST Chum (12,13)	188,181	0
	Area B Seine	MVI Chum (18)	0	0
	Area D Gillnet	Fraser Sockeye (12,13)	60	2
	Area D Gillnet	Somass Chinook (23)	0	0
	Area D Gillnet	Nootka Chum (25)	7,276	0
	Area D Gillnet	Esperenza Chum (25)	7,534	0
	Area D Gillnet	Clayoquot Chum (24)	483	0
	Area D Gillnet	Barkley Chum (23)	2,109	0
	Area D Gillnet	JST Chum (12,13)	89,453	3
	Area D Gillnet	MVI Chum (14)	13,878	1
	Area E Gillnet	MVI Chum (17)	802	0
	Area E Gillnet	MVI Chum (18)	3,560	0
	Area E Gillnet	Nitinat Chum (21)	23,919	9
	Area E Gillnet	Fraser Chum (29)	38,016	47
Total Commercial Catch			**415,744**	**144**
Recreational	Sport	Juan de Fuca	251	228
	Sport	Strait of Georgia	17	0
	Sport	Johnstone Strait	2,892	181
	Sport	WCVI	31	44
	Sport	Fraser River	4,697	28,762
Total Recreational Catch			**7,888**	**29,215**
First Nations FSC		Johnstone Strait	13,106	0
		Strait of Georgia	10,000	-
		WCVI	1,420	0
		Fraser River	31,524	1,417
Total First Nations FSC Catch			**56,050**	**1,417**
First Nations EO		Johnstone Strait	-	-
		Strait of Georgia	-	-
		WCVI	2,248	0
		Fraser River	49,263	7
Total First Nations EO Catch			**51,511**	**7**
First Nations ESSR		Johnstone Strait	-	-
		Strait of Georgia	1,216	0
		WCVI	5,034	0
		Fraser River	40,679	0
Total First Nations ESSR Catch			**46,929**	**0**
TOTAL - ALL FISHERIES			**578,122**	**30,783**

Table 23 Preliminary 2008 Southern Coast commercial catch totals by gear and area.

Gear	Fishing Area	Sockeye Kept	Sockeye Released	Coho Kept	Coho Released	Pink Kept	Pink Released	Chum Kept	Chum Released	Chinook Kept	Chinook Released
Area G Troll	WCVI Chinook (23-27, 123-127)*	1	9	369	9,011	10	45	319	16	89,704	7,281
Area H Troll	Fraser Sockeye (12,13,18)	469	0	5	3	280	63	0	0	0	6
Area H Troll	JST Chum (12,13)	0	3	0	118	1	13	21,297	20	0	7
Area H Troll	MVI Chum (14)	0	0	0	0	0	0	0	0	0	0
Area H Troll	Fraser Chum (29)	0	0	0	0	0	0	0	0	0	0
Area B Seine	Fraser Sockeye (12,13)	1,039	0	0	66	3,363	0	61	0	0	49
Area B Seine	Fraser Sockeye (20)	11,335	0	0	12	37	0	0	20	0	50
Area B Seine	Somass Chinook (23)	0	4	3,437	0	0	0	0	26	3,409	0
Area B Seine	Nitinat Chum (21)	0	0	0	135	0	0	18,796	0	0	7
Area B Seine	JST Chum (12,13)	0	2	6	640	29	12	188,181	0	0	33
Area B Seine	MVI Chum (18)	0	0	0	0	0	0	0	0	0	0
Area D Gillnet	Fraser Sockeye (12,13)	4,098	0	0	152	4,084	57	60	2	0	16
Area D Gillnet	Somass Chinook (23)	0	0	805	4	0	0	0	0	4,848	2
Area D Gillnet	Nootka Chum (25)	0	0	325	1	0	0	7,276	0	0	2
Area D Gillnet	Esperenza Chum (25)	0	0	308	1	0	0	7,534	0	0	0
Area D Gillnet	Clayoquot Chum (24)	0	0	0	24	0	0	483	0	0	0
Area D Gillnet	Barkley Chum (23)	0	0	95	2	0	0	2,109	0	0	1
Area D Gillnet	JST Chum (12,13)	0	0	0	627	6	9	89,453	3	0	21
Area D Gillnet	MVI Chum (14)	0	0	0	32	0	0	13,878	1	0	0
Area E Gillnet	MVI Chum (17)	0	0	0	1	0	0	802	0	0	0
Area E Gillnet	MVI Chum (18)	0	0	0	0	0	0	3,560	0	0	0
Area E Gillnet	Nitinat Chum (21)	0	0	4	144	0	0	23,919	9	0	3
Area E Gillnet	Fraser Chum (29)	0	0	0	92	0	0	38,016	47	10	19
TOTALS		**16,942**	**18**	**5,354**	**11,065**	**7,810**	**199**	**415,744**	**144**	**97,971**	**7,497**

*Oct'07-Sept'08

Table 24. Preliminary 2008 Southern Coast recreational catch totals by area.

Fishing Area	Sockeye Kept	Sockeye Released	Coho Kept	Coho Released	Pink Kept	Pink Released	Chum Kept	Chum Released	Chinook ISBM Kept	Chinook ISBM Released	Chinook AABM Kept	Chinook AABM Released
Juan de Fuca	141	20	1,235	2,741	123	120	251	228	20,467	5,369		
Strait of Georgia	37		233	637	14	169	17	0	3,890	6,849		
Johnstone Strait	56	267	1,245	3,640	7,147	1,752	2,892	181	9,047	6,434		
WCVI	71	112	27,749	27,309	905	100	31	44	24,381	8,750	50,319	21,939
Fraser River	16,344	17,157	2,798	2,808	0	0	4,697	28,762	18,739	13,229		
Total	**16,649**	**17,556**	**33,260**	**37,135**	**8,189**	**2,141**	**7,888**	**29,215**	**76,524**	**40,631**	**50,319**	**21,939**

Table 25. 2008 Southern Coast First Nations catch estimates by area.

Fishery type	Fishing Area	Sockeye		Coho		Pink		Chum		Chinook		Chinook	
		Kept	Released	Kept	Released	Kept	Released	Kept	Released	ISBM Kept	ISBM Released	AABM Kept	AABM Released
FSC	Johnstone Strait	13,627	0	250	0	2,975	0	13,106	0	324	0		
FSC	Strait of Georgia	16,297	0	-	-	35	0	10,000	-	769	0		
ESSR	Strait of Georgia	-	-	95	0	-	-	1,216	0	4,079	-		
FSC	WCVI	6,024	0	3,354	0	6	0	1,420	0	12,159	0	3,794	0
EO	WCVI	-	-	2,699	0	-	-	2,248	0	-	-		
ESSR	WCVI	-	-	9,643	0	-	-	5,034	0	-	-		
FSC	Fraser River	415,012	744	252	38	7	0	31,524	1,417	25,722	41		
EO	Fraser River	13	3	108	278	-	-	49,263	7	879	17		
ESSR	Fraser River	-	-	12,153	0	-	-	40,679	0	5,217	0		
	Total	**450,973**	**747**	**28,554**	**316**	**3,023**	**0**	**154,490**	**1,424**	**49,149**	**58**	**3,794**	**0**

Table 26. 2008 South Coast Test-fishery catches.

Test-Fishery	Sockeye retain	Sockeye release	Coho retain	Coho release	Pink retain	Pink release	Chum retain	Chum release	Chinook retain	Chinook release
Blinkhorn (Area 12) Sockeye Seine	3156	1573	0	248	0	10968	0	415	0	440
Round Island (Area 12) Sockeye Gillnet	1496	0	80	53	975	1	51	0	48	4
Area 13 Sockeye Seine	1481	27	0	77	32	1488	3	147	0	156
Area 20 Sockeye Seine	4258	9714	0	354	0	158	0	112	0	429
Area 20 Sockeye Gillnet	19157	0	0	87	149	0	94	1	172	95
Area 23 Sockeye Seine	0	1646	0	2	0	0	0	0	8	58
Area 12 Chum Seine	0	3	1	115	0	10	844	32528	0	3
Area 18 Chum Seine	0	0	0	1	0	0		3209	0	0
Area 18/19 Chum Seine	0	0	0	1	0	0		4728	0	0
Nitinat Lake Chum Gillnet	1		42	1	0	0	2923	2	2	0
Cottonwood Sockeye Gillnet	1658	0	0	10	1	0	3	0	82	65
Whonnock Sockeye Gillnet	2016	0	2	59	0	0	497	1	1246	19
Albion Gillnet	1190	0	0	195	0	0	10155	0	2699	0
Totals	34413	12963	125	1203	1157	12625	14570	41143	4257	1269

C. 2008 POST-SEASON REPORT FOR UNITED STATES SALMON FISHERIES OF RELEVANCE TO THE PACIFIC SALMON COMMISSION

Northern Boundary Area Fisheries

District 104 Purse Seine Fishery

The June 30, 1999 revision of the Pacific Salmon Treaty (PST) Agreement calls for abundance based management of the District 104 purse seine fishery. The agreement allows the District 104 purse seine fishery to harvest 2.45 percent of the Annual Allowable Harvest (AAH) of Nass and Skeena sockeye prior to Alaska Department of Fish and Game (ADFG) statistical week 31. The AAH is calculated as the total run of Nass and Skeena sockeye salmon minus either the escapement requirement of 1.1 million (200,000 Nass and 900,000 Skeena) or the actual inriver escapement, whichever is less.

The District 104 purse seine fishery opens the first Sunday in July; in 2008 the initial opening was July 6 (Week 28). The pre-Week 31 fishing plan for District 104 was based on the preseason Canadian DFO forecast returns of approximately 479,000 Nass and 1.27 million Skeena sockeye salmon.

In the 2008 treaty period, 6,262 sockeye were harvested in; an 8-hour opening in Week 28; a 10-hour opening in Week 29; and a 15-hour opening in Week 30 (Table 27). The number of purse seine vessels fishing ranged from 3 to 16 in individual openings during the treaty period. In past years 60% to 80% of treaty-period sockeye have been of Nass and Skeena origin. Thus, we would anticipate that between 3,760 and 5,010 Nass and Skeena sockeye were harvested in the District 104 purse seine fishery during the treaty period. The final number of Nass and Skeena sockeye harvested, and the actual catch by stock, will not be available until catch, escapement, and stock composition estimates are finalized for the year.

The average numbers of hours, boats and boat-days fished pre-Week 31 in District 104 since the Pacific Salmon Treaty was signed in 1985 are down 55%, 55% and 82% respectively compared to the 1980-1984 period (Table 28). The total pre-Week 31 Treaty-period sockeye harvest is also down 36% despite a 290% increase in the average sockeye catch-per-boat-day since 1984. The seine fleet moves freely between districts as various species are harvested, so seining opportunities elsewhere can affect the effort and catch in District 104.

Table 27. Catch and Effort in the Alaska District 104 purse seine fishery, 2008.

Week/ Opening	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Boats	Hours
28	7/6	0	376	254	507	1,857	3	8
29	7/13	0	2,531	731	1,978	2,731	7	10
30	7/24	0	3,355	5,708	34,053	7,150	16	15
31	7/27	0	2,597	3,420	48,230	4,624	38	15
31B	7/30	0	5,655	8,490	132,674	8,264	47	15
32	8/3	0	5,799	11,436	323,969	12,607	60	15
32B	8/6	0	4,445	6,116	289,110	8,422	47	15
33	8/10	0	6,522	10,606	661,664	10,203	37	39
33B	8/14	104	3,199	6,746	517,906	13,442	27	39
34	8/18	298	2,328	8,095	421,728	12,772	38	39
34B	8/22	52	3,160	4,844	309,959	10,592	24	39
35	8/26	12	1,036	2,025	91,494	4,867	13	39
35B	8/30	0	72	218	10,881	1,019	5	39
Weeks 27-30		0	6,262	6,693	36,538	11,738	17	33
Weeks 31-35		466	34,813	61,996	2,807,615	86,812	84	294
Total Season		466	41,075	68,689	2,844,153	98,550	84	327

Table 28. Fishing opportunity, effort, and sockeye harvests prior to Week 31 in the District 104 purse seine fishery, 1980 to 2008.

Year	Hours Fished	Boats Fishing	Fraction Days Fished (1d=15hrs)	Boat-Days Fished (Fraction Boats and Fraction Days)	Sockeye Harvest	Sockeye Catch per Boat-Day
1980	207	244	13.8	2,877	266,273	93
1981	132	212	8.8	1,108	185,188	167
1982	117	255	7.8	1,435	213,150	149
1983	108	241	7.2	1,211	170,306	141
1984	132	174	8.8	805	103,319	128
1985	84	141	5.6	502	100,590	200
1986	108	194	7.2	968	91,320	94
1987	90	134	6	457	72,385	158
1988	108	210	7.2	994	248,789	250
1989	84	135	5.6	438	157,566	360
1990	42	171	2.8	276	169,943	615
1991	41	134	2.7	243	98,583	406
1992	29	108	1.9	142	79,643	561
1993	45	171	3	343	163,189	476
1994	55	84	3.7	202	158,524	783
1995	58	109	3.9	218	71,376	328
1996	31	113	2.1	128	215,144	1,684
1997	56	159	3.7	409	572,942	1,402
1998	32	78	2.1	89	17,394	196
1999	30	38	2	44	7,664	174
2000	81	66	5.4	192	48,969	255
2001	50	95	3.3	182	203,090	1,115
2002	72	44	4.8	124	26,554	215
2003	52	40	3.5	97	84,742	875
2004	107	24	7.1	102	30,758	302
2005	68	38	4.5	93	35,690	382
2006	95	39	6.3	117	89,615	766
2007	50	68	3.3	136	112,135	824
2008	33	17	2.2	22	6,262	281
Avg. 80-84	139	225	9	1,487	187,647	136
Avg. 85-08	63	100	4	272	119,286	529
% Change	-55%	-55%	-55%	-82%	-36%	290%

In the 2008 season, the District 104 purse seine fishery harvested 2,844,153 pink salmon, 41,075 sockeye, 68,689 coho, 98,550 chum, and 466 Chinook salmon. During the 2008 season, 84 purse seine vessels fished in District 104, up from a low of 60 in 2004 but still well below the 200-300 fishing in the 1980's and early 1990's. The number of days that the fishery was open was below the treaty-period average except in weeks 33 and 34. The number of boats fishing was below average throughout the season (Figure 7).

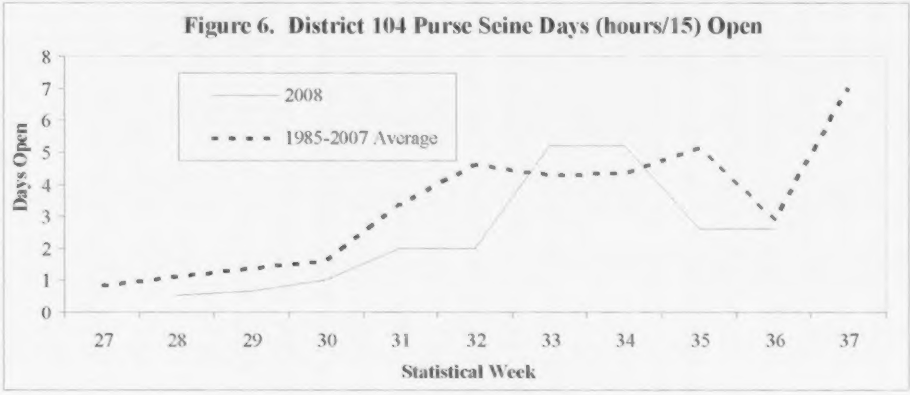


Figure 6. District 104 Purse Seine Days (hours/15) Open

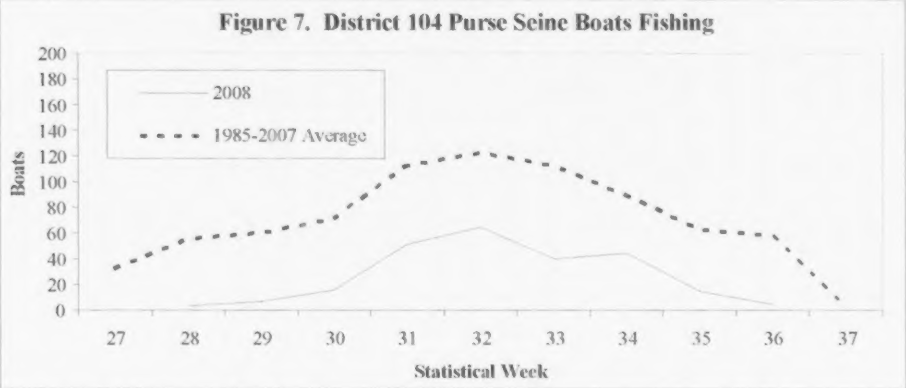
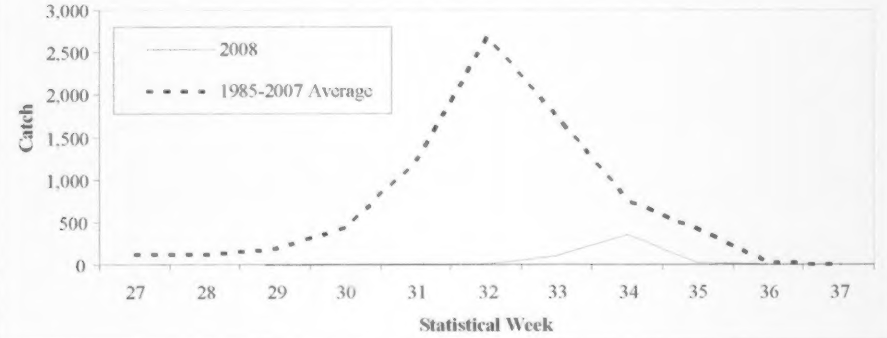


Figure 7. District 104 Purse Seine Boats Fishing

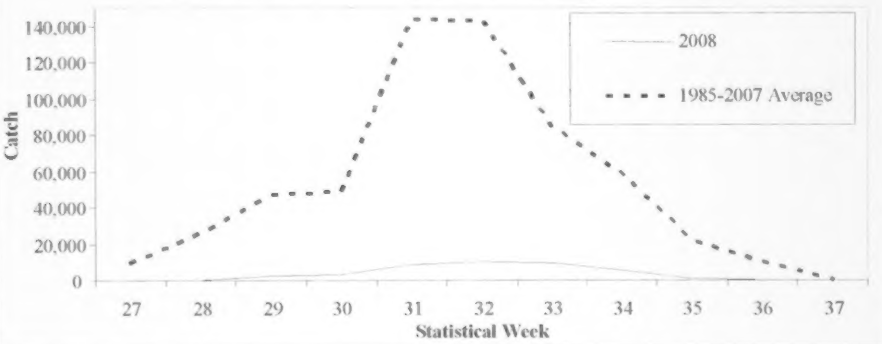
The Chinook retention period in the 2008 District 104 purse seine fishery began August 14 (week 33). Due to the low number of boats fishing during this period and the low abundance of Chinook the catches were far below average.

Figure 8. District 104 Purse Seine Chinook Salmon Catch



Sockeye salmon catches were far below average throughout the season (Figure 9). The treaty period (week 28-30) sockeye catch of 6,262 was the lowest since the treaty was signed in 1985 and the season's total catch of 41,075 was the second lowest.

Figure 9. District 104 Purse Seine Sockeye Salmon Catch



Catches of coho, pink, and chum salmon were also below average throughout the season (Figures 10-12).

Figure 10. District 104 Purse Seine Coho Salmon Catch

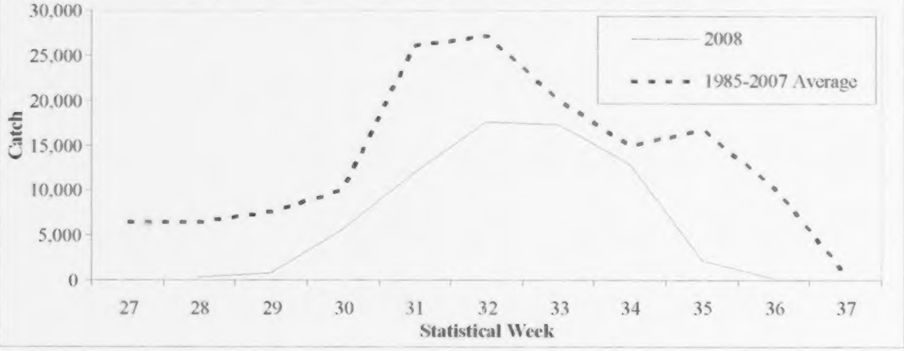


Figure 11. District 104 Purse Seine Pink Salmon Catch

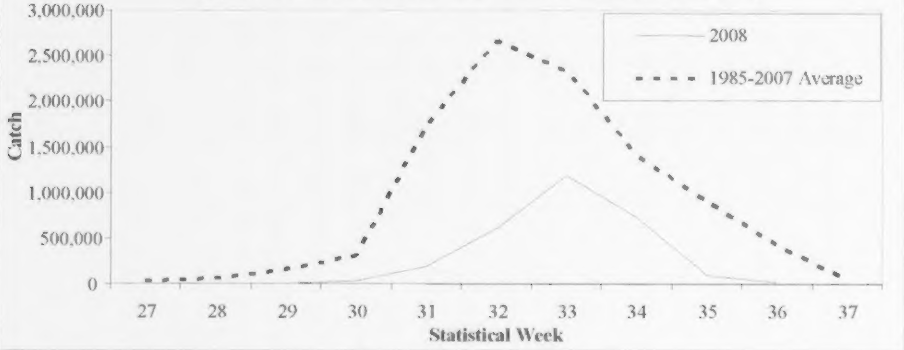
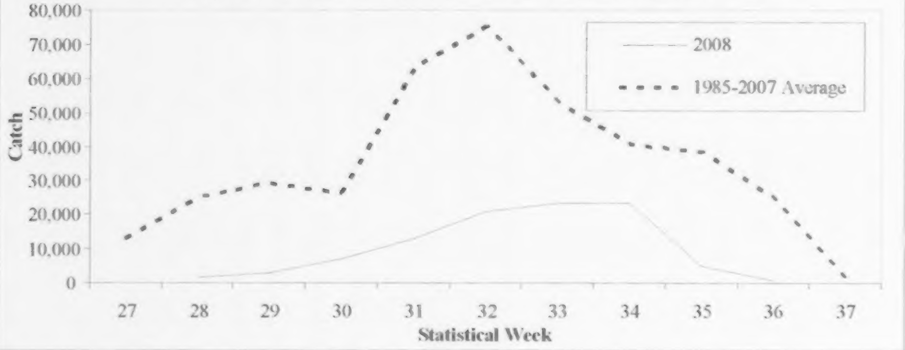


Figure 12. District 104 Purse Seine Chum Salmon Catch



District 101 Drift Gillnet Fishery

The June 30, 1999 PST agreement calls for abundance based management of the District 101 (Tree Point) drift gillnet fishery. The agreement specifies a harvest of 13.8 percent of the AAH of the Nass River sockeye run. For the 2008 season, DFO forecast a total return of 479,000 Nass River sockeye salmon. The AAH is calculated as the total run of Nass sockeye salmon minus either the escapement requirement of 200,000 or the actual inriver escapement, whichever is less.

The District 101 drift gillnet fishery opens by regulation on the third Sunday in June. During the early weeks of the fishery, management is based on the run strength of Alaska wild stock chum and sockeye salmon and on the strength of the Nass River sockeye salmon. Beginning in the third week of July, when pink salmon stocks begin to enter the fishery in large numbers, management emphasis shifts by regulation to that species. By regulation, the District 101 Pink Salmon Management Plan sets gillnet fishing time in this district in relation to the District 101 purse seine fishing time when both fleets are concurrently harvesting the same pink salmon stocks.

A total of 34,113 sockeye salmon were harvested in the District 101 drift gillnet fishery in 2008 (Table 29). The sockeye harvest was less than 25% the 1985-2007 average of 141,841. The number of hours fished was above average. The number of boats fishing annually, while still less than half the 1985-2007 average of 122, rose from a treaty period low of 48 in 2006 to 54 in 2008. The final number of Nass River sockeye harvested at Tree Point will not be available until catch, escapement, and stock composition estimates are finalized for the 2008 season.

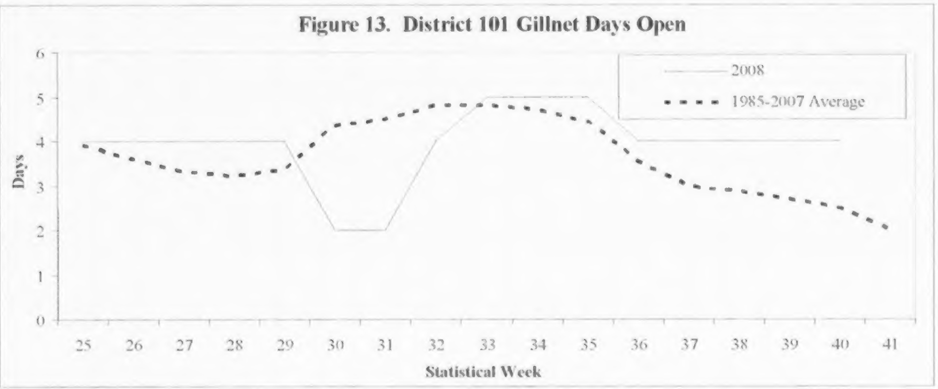
Table 29. Weekly catch and effort in the Alaska District 101 commercial drift gillnet fishery, 2008.

Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Boats	Hours
25	15-Jun	484	3,291	864	875	4,787	32	96
26	22-Jun	506	4,540	1,613	3,031	10,575	33	96
27	29-Jun	369	4,949	2,944	6,575	19,380	37	96
28	6-Jul	182	6,175	2,776	21,152	50,540	40	96
29	13-Jul	154	3,361	4,041	12,932	45,314	42	96
30	20-Jul	65	4,733	1,745	13,367	27,533	37	48
31	27-Jul	35	1,313	3,010	11,454	14,173	37	48
32	3-Aug	45	4,394	8,983	48,669	11,624	34	96
33	10-Aug	22	552	5,372	50,483	8,009	30	120
34	17-Aug	5	382	4,222	56,212	7,028	29	120
35	24-Aug	7	273	6,233	21,206	13,502	29	120
36	31-Aug	3	141	7,404	17,730	11,270	34	96
37	7-Sep	2	2	10,465	5,704	7,135	31	96
38	14-Sep	1	5	19,685	1,231	6,129	30	96
39	21-Sep	1	2	16,399	15	2,612	28	96
40	28-Sep	0	0	143	0	26	3	96
Total		1,881	34,113	95,899	270,636	239,637	54	1,512
1985-2007 Avg.		1,472	141,841	41,656	550,524	308,861	122	1,326

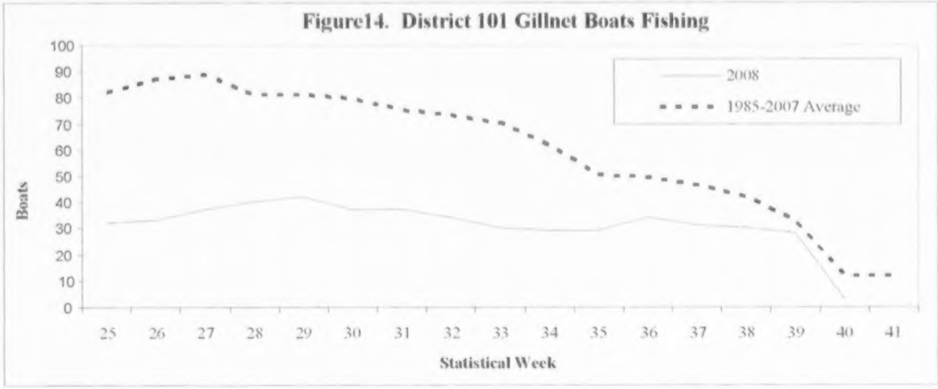
Table 30. **Annual sockeye harvest in the Alaska District 101 drift gillnet fishery, 1985 to 2008, and comparison of sockeye harvest and effort (number of boats, hours, and boat-hours fished) between Statistical Weeks 26 and 35 when sockeye salmon are most abundant in this district.**

		Catch and Effort between Weeks 26-35			
Year	Total Sockeye Harvest	Sockeye Harvest	Boats	Hours	Boat-Hours
1985	173,100	159,021	153	1,032	157,865
1986	145,699	143,286	198	960	190,044
1987	107,503	106,638	170	615	104,519
1988	116,115	115,888	187	756	141,338
1989	144,936	130,024	176	1,023	180,016
1990	85,691	78,131	150	840	125,969
1991	131,492	123,508	130	984	127,920
1992	244,649	243,878	118	1,080	127,416
1993	394,098	390,299	148	1,032	152,733
1994	100,377	98,725	142	984	139,700
1995	164,294	151,131	128	1,008	129,024
1996	212,403	175,569	129	1,104	142,408
1997	169,474	152,662	128	1,008	129,024
1998	160,506	159,307	124	1,044	129,454
1999	160,028	158,268	118	1,032	121,776
2000	94,651	94,399	95	912	86,640
2001	80,041	62,129	73	1,020	74,445
2002	120,353	106,360	68	1,008	68,544
2003	105,263	96,921	68	1,104	75,058
2004	142,357	141,395	61	1,104	67,332
2005	79,725	75,875	69	1,104	76,162
2006	62,770	53,048	45	840	37,791
2007	66,822	50,642	54	1,032	55,717
2008	34,113	30,672	47	936	43,983
Average 1985-2007	141,841	133,352	119	984	114,822

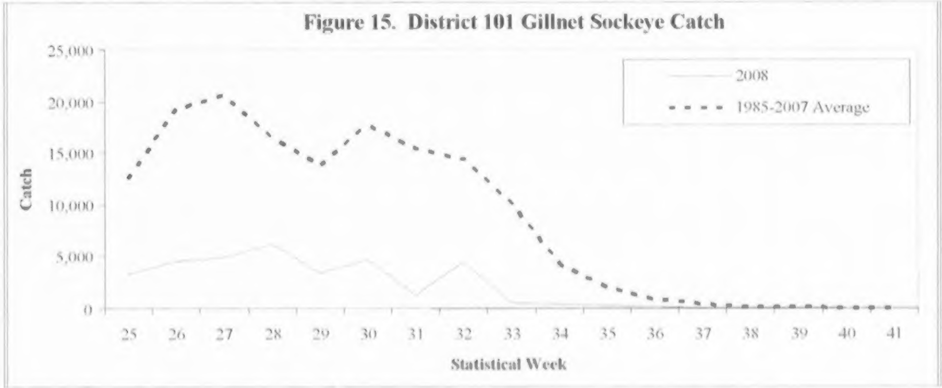
The District 101 gillnet fishery was initially opened Sunday June 15 (Week 25). The durations of weekly openings were below treaty period (1985-2007) averages in Weeks 30-31 and above average from Week 33 until the end of the season (Figure 13).



The number of gillnet boats fishing during weekly openings of the District 101 gillnet fishery remained below the 1985-2008 average (Figure 14).



The catch of sockeye salmon was far below treaty period averages throughout the season (Figure 15). The cumulative sockeye harvest prior to the initiation of the Pink Salmon Management Plan in Week 30 was 22,316 fish, or about 65% of the season's total sockeye harvest.



Coho catches were above average throughout the season (Figure 16).

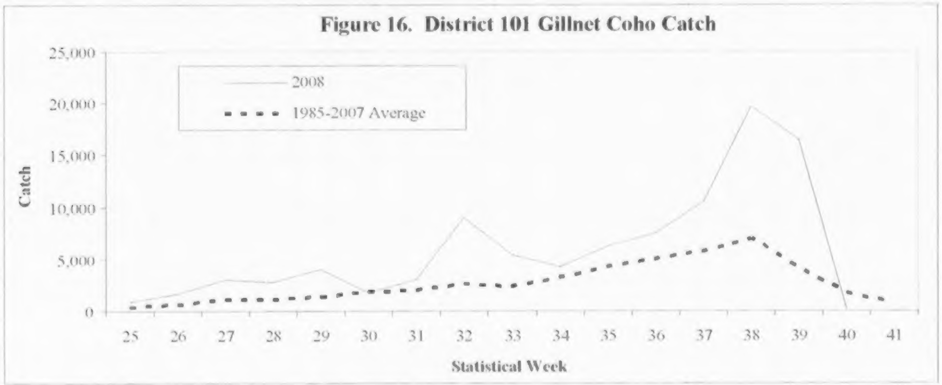


Figure 16. District 101 Gillnet Coho Catch

Pink salmon catches, were below the treaty period average throughout the season (Figure 17).

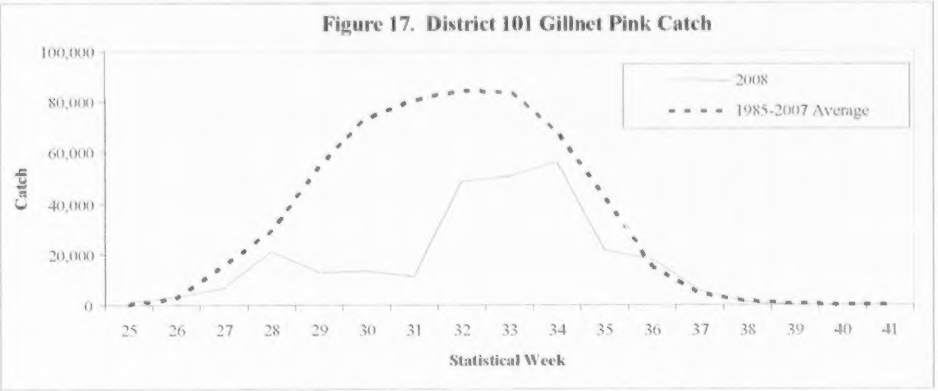


Figure 17. District 101 Gillnet Pink Catch

Chum salmon catches were above average in weeks 28 and 29 but below average the remainder of the season (Figure 18).

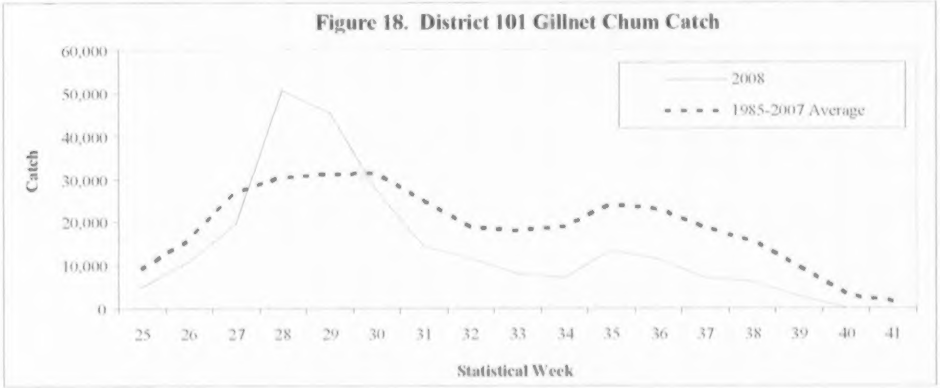


Figure 18. District 101 Gillnet Chum Catch

Chinook salmon catches were close to the treaty period average throughout the season (Figure 19).

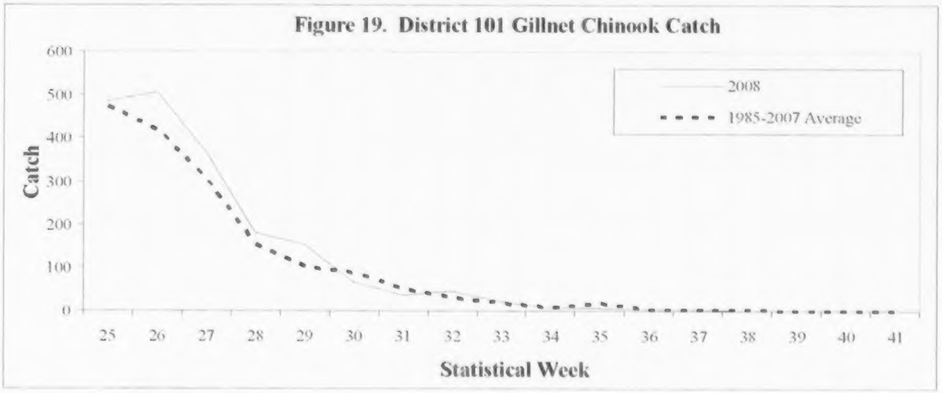


Figure 19. District 101 Gillnet Chinook Catch

Beginning on August 31 (week 36) the fishery was managed on the strength of wild stock fall chum and coho salmon returns. Fall coho catches were above average while fall chum catches were below average during this period.

Escapements

The total 2008 Southeast Alaska pink salmon escapement index of 9.6 million index fish ranked 23rd since 1960—the lowest since 1990, and just over half of the recent 10-year average of 17.1 million. Biological escapement goals are in place for three sub-regions in Southeast Alaska (Table 31). Although escapement goals were reached for Southern Southeast and Northern Southeast Outside sub-regions, runs were extremely poor in Northern Southeast Inside sub-region (inside waters north of Sumner Strait), and the escapement goal was not reached for the first time since 1988. The Southern Southeast sub-region includes all of the area from Sumner Strait south to Dixon Entrance (Districts 1–8). The pink salmon harvest of 13.6 million in the Southern Southeast sub-region was 48% below the recent 10-year average; however, the escapement index value of 6.4 million fell within the escapement goal range of 3.0 to 8.0 million index fish, and escapements indices were within or exceeded management targets for all but District 8 and for 5 of 18 pink salmon stock groups in this sub-region.

Table 31. 2008 Southeast Alaska pink salmon escapement indices, and biological escapement goals by sub-region (in millions).

Sub-region	2008 Pink Salmon Index	Biological Escapement Goal[1] Lower Bound	Upper Bound
Southern Southeast	6.4	3.0	8.0
Northern Southeast Inside	1.5	2.5	6.0
Northern Southeast Outside	1.8	0.75	2.50
Total	9.6		

[1] Pink salmon escapement goals were recently adjusted as a result of updates and changes to the pink salmon escapement index.

Sockeye salmon runs throughout Southeast Alaska were poor in 2008. The Hugh Smith Lake adult sockeye escapement was 3,500, which fell short of the lower end of the biological escapement goal range of 8,000 to 18,000 adult sockeye salmon. The escapement of sockeye salmon into McDonald Lake was estimated to be 21,000 fish, based on the expanded peak foot survey count. This run has declined over the past decade and this is the 7th year in the past 8 that the escapement has been below the escapement goal range of 70,000 to 100,000 sockeye salmon.

Escapement survey information for chum salmon index streams indicated that escapements of summer-run chum salmon throughout Southeast Alaska were very poor in 2008. In southern Southeast Alaska, runs are broken into summer and fall runs. The Southern Southeast chum salmon stock group is composed of an aggregate of 13 summer-run chum salmon streams on the inner islands and mainland of southern Southeast Alaska, from Sumner Strait south to Dixon entrance, with a sustainable escapement goal of 68,000 index spawners (based on the aggregate peak survey to all 13 streams). The index of 13,000 in 2008 was only 15% of the recent 10-year average, and well below the newly recommended escapement goal (Figure 20).

Fall chum salmon runs on Prince of Wales Island appeared to be more robust than summer runs. Fall chum salmon runs are monitored in Cholmondeley Sound at Disappearance and Lagoon creeks, with a newly recommended sustainable escapement goal range of 30,000 to 48,000 index spawners (based on the aggregate peak survey to both streams). The escapement index of 47,000 was right at the 10-year average and well within the escapement goal range (Figure 21).

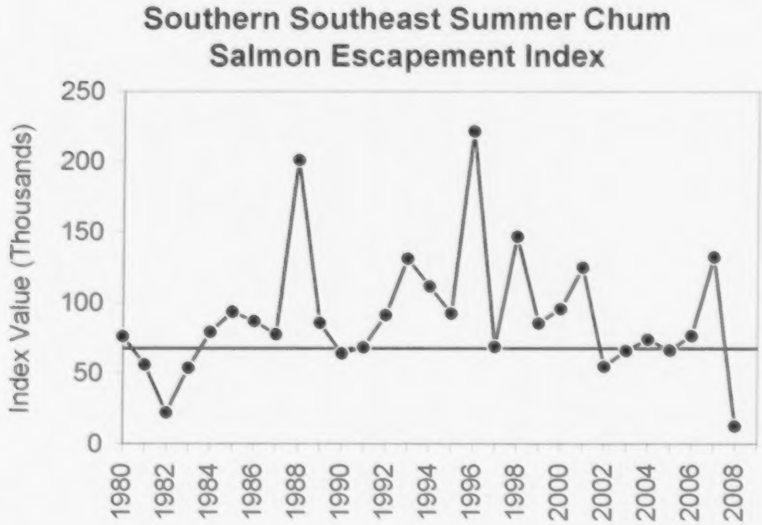


Figure 20. Observed escapement index value by year (solid circles) and recommended sustainable escapement goal threshold of 68,000 index spawners (horizontal line) for wild summer-run chum salmon in the Southern Southeast sub-region, 1980–2008.

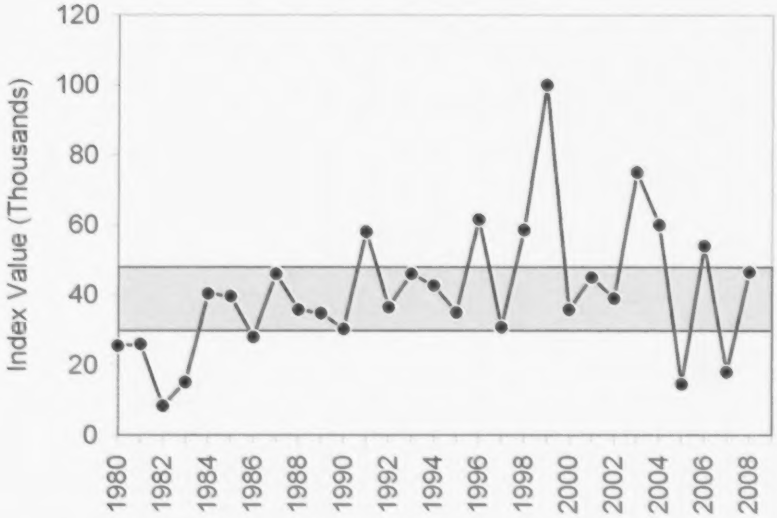


Figure 21. Observed escapement index value by year (solid circles) and recommended sustainable escapement goal range of 30,000 to 48,000 index spawners (shaded area) for Cholmondeley Sound fall-run chum salmon, 1980–2008.

Transboundary Area Fisheries

Stikine River Area Fisheries

The 2008 harvest in the District 106 commercial gillnet fishery included 1,049 Chinook, 30,533 sockeye, 116,074 coho, 90,217 pink, and 102,156 chum salmon (Table 32). District 106 harvests of all species were below the 1998-2007 average (Figures 23-26). Lower catches can be partially attributed to a shift in effort from District 106 into District 108 to target returning Stikine and enhanced Chinook and enhanced chum, as well as effort shifting to other districts in the region with large enhanced chum returns. Overall, fishing time was slightly below the ten-year average in District 106, due mainly to conservation efforts for McDonald Lake sockeye and pink salmon, and effort was well below average (Figures 21 and 22). An estimated 44% of the coho salmon harvest was of Alaskan hatchery origin.

Table 32 Weekly salmon catch in the Alaskan District 106 commercial drift gillnet fisheries, 2008. Catches do not include Blind Slough terminal area harvests.

Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
24	8-Jun	179	83	94	0	22	13	2	26
25	15-Jun	177	1,242	2,012	18	438	24	2	48
26	22-Jun	175	3,561	6,538	1,213	3,243	45	4	180
27	29-Jun	318	7,244	10,582	1,918	11,639	65	4	260
28	6-Jul	61	5,219	5,887	2,429	11,622	47	3	141
29	13-Jul	58	6,215	4,664	4,032	18,449	50	2	100
30	20-Jul	39	2,980	2,289	4,162	12,680	39	2	78
31	27-Jul	6	1,231	2,020	7,209	4,251	24	2	48
32	3-Aug	5	1,629	3,447	18,969	5,380	38	2	76
33	10-Aug	3	525	1,768	12,607	2,285	28	2	56
34	17-Aug	1	293	3,010	24,714	2,345	37	2	74
35	24-Aug	3	49	4,950	5,501	2,868	31	2	62
36	31-Aug	0	44	12,565	4,583	7,337	60	3	180
37	7-Sep	15	208	29,283	2,485	11,430	83	4	332
38	14-Sep	7	8	18,730	368	5,334	85	4	340
39	21-Sep	2	2	7,634	9	2,558	51	3	153
40	28-Sep	0	0	601	0	275	14	3	42
Total 2008		1,049	30,533	116,074	90,217	102,156	144	46	2,196
1998-2007 Average		1,211	105,631	160,245	376,923	255,210	164	48	3,248
2008 as % of Average		87%	29%	72%	24%	40%	88%	96%	68%

Figure 21. District 106 Gillnet Days Open

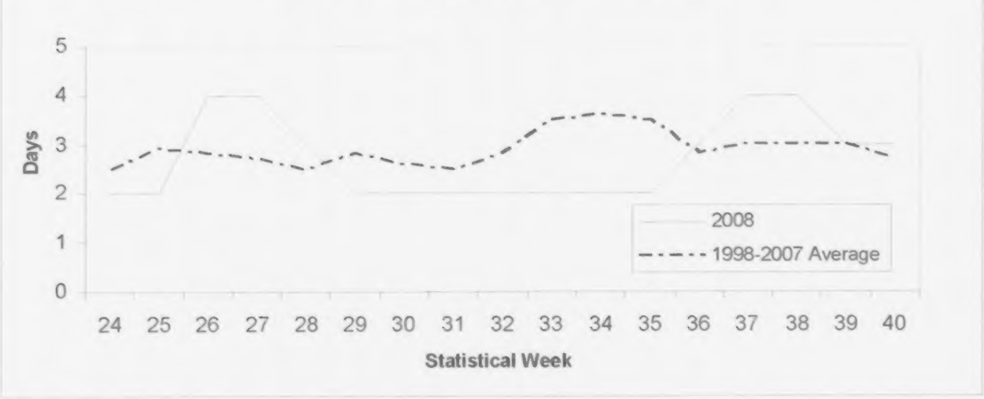


Figure 22. District 106 Gillnet Boats Fishing

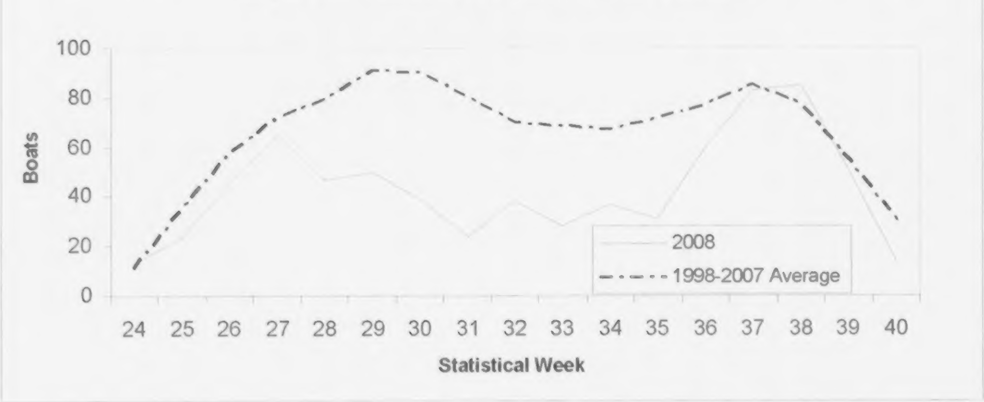


Figure 23. District 106 Gillnet Sockeye Catch

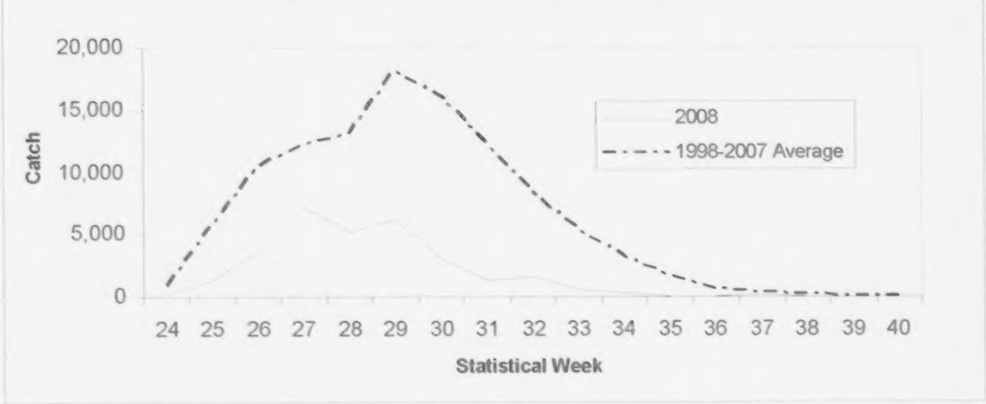


Figure 24. District 106 Gillnet Coho Catch

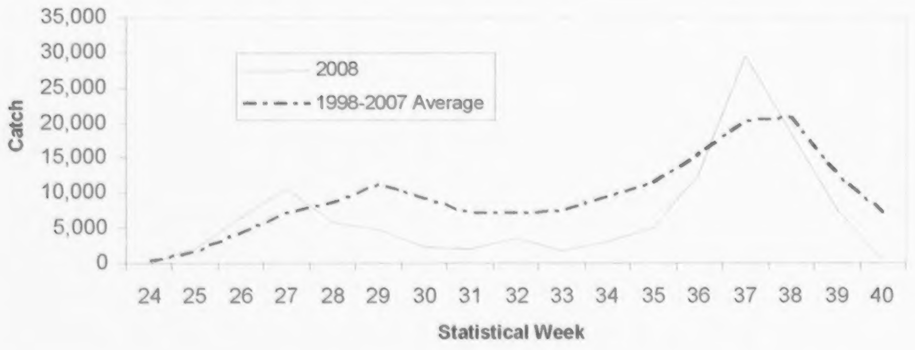


Figure 25. District 106 Gillnet Pink Catch

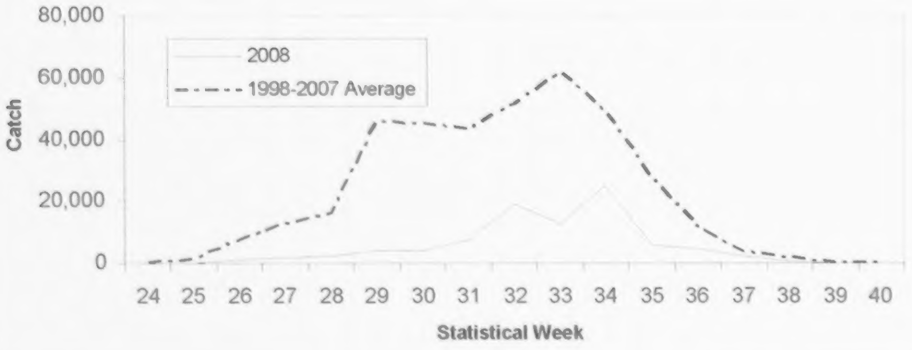
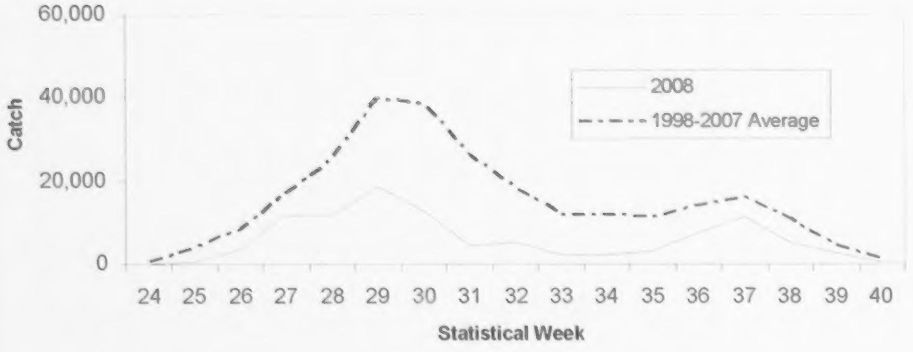


Figure 26. District 106 Gillnet Chum Catch



In the 2008 District 108 fishery, 13,049 Chinook, 35,679 sockeye, 34,479 coho, 18,105 pink, and 81,876 chum salmon were harvested (Table 33). Chinook and coho harvests were above the ten-year average while sockeye, pink, and chum harvests were below average (Figures 29-32). Overall, fishing time and effort were above-average (Figures 27 and 28). An estimated 27% of the coho salmon harvest was of Alaskan hatchery origin.

The fourth consecutive commercial directed Stikine River Chinook drift gillnet fishery in recent years occurred in statistical weeks 19 through 23 of the 2008 season. The fishery was limited to the waters in District 108, as was the case in the previous three seasons, in order to target adult Stikine Chinook. Three two-day openings then two one-day openings occurred and openings generally began on Monday. One hundred twenty-seven vessels made landings of Chinook over the course of the fishery. The 2008 directed Stikine Chinook salmon gillnet fishery harvested a total of 12,906 large fish through statistical week 29; of this total, 7,269 large fish were treaty fish (i.e. wild Stikine fish).

Table 33. Weekly salmon catch and effort in the Alaskan District 108 commercial drift gillnet fishery, 2008. The permit days are adjusted for boats that fished only the midweek openings. 2008 Chinook % of avg. reflects the directed fishery.

Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
19	5-May	320	0	0	0	0	31	2	62
20	12-May	769	0	0	0	1	53	2	106
21	19-May	1,591	1	0	0	0	96	2	192
22	27-May	1,396	0	0	0	0	103	1	103
23	2-Jun	1,538	1	0	0	1	103	1	103
24	8-Jun	1,267	78	1	0	12	70	2	140
25	15-Jun	2,258	2,102	260	0	69	76	2	152
26	22-Jun	2,074	10,604	696	13	873	88	4	352
27	29-Jun	903	6,850	1,495	133	2,905	75	4	300
28	6-Jul	540	6,519	822	220	7,328	65	5	216
29	13-Jul	250	6,747	1,818	1,220	18,848	61	4	166
30	20-Jul	60	1,520	354	706	14,113	38	2	76
31	27-Jul	47	712	1,022	4,686	19,429	52	2	104
32	3-Aug	7	203	726	2,511	12,103	32	2	64
33	10-Aug	4	252	2,281	4,434	2,778	42	2	84
34	17-Aug	0	38	2,961	1,239	669	35	2	70
35	24-Aug	1	37	2,914	2,111	548	36	2	72
36	31-Aug	17	9	4,133	386	444	29	3	87
37	7-Sep	4	6	8,153	440	1,175	43	4	172
38	14-Sep	0	0	4,273	5	357	40	4	160
39	21-Sep	3	0	2,441	1	217	30	3	90
40	28-Sep	0	0	129	0	6	8	3	24
Total 2008		13,049	35,679	34,479	18,105	81,876	170	58	2,329
1998-2007 Average		7,687	45,218	24,708	41,251	96,701	116	51	1,788
2008 as % of Avg.		170%	79%	140%	44%	85%	147%	114%	130%

Figure 27. District 108 Gillnet Days Open

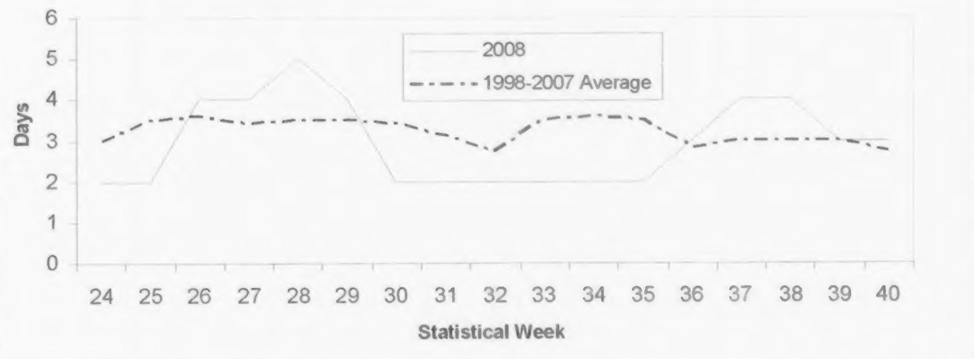


Figure 28. District 108 Gillnet Boats Fishing

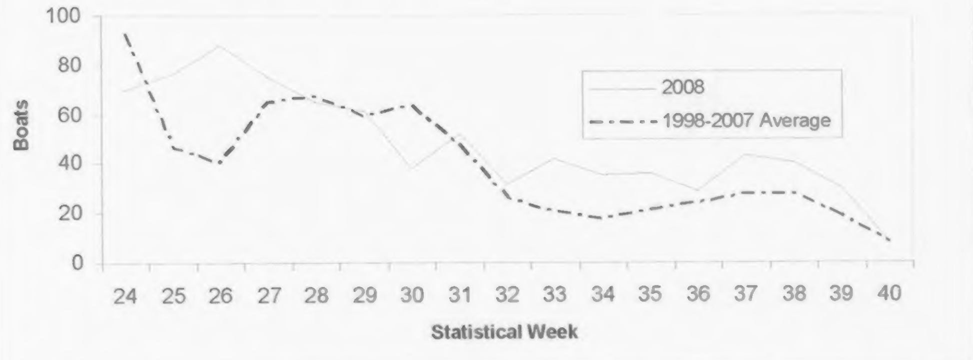


Figure 29. District 108 Gillnet Sockeye Catch

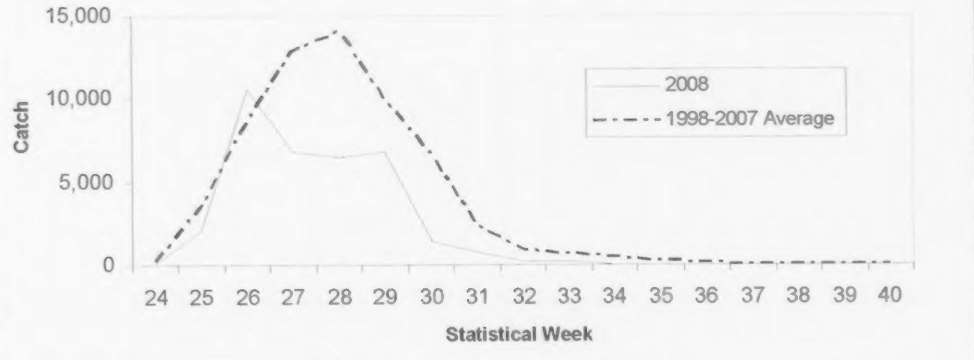


Figure 30. District 108 Gillnet Coho Catch

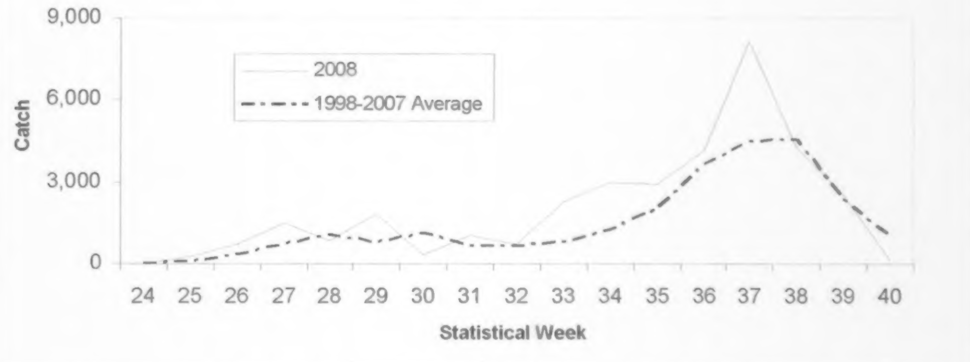


Figure 31. District 108 Gillnet Pink Catch

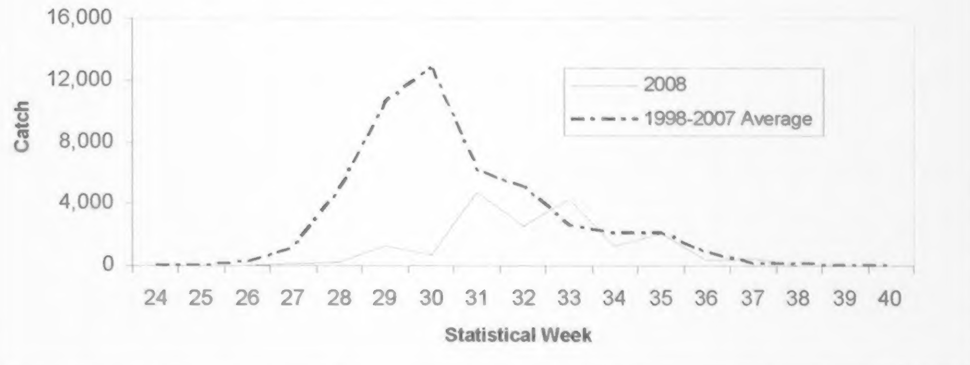
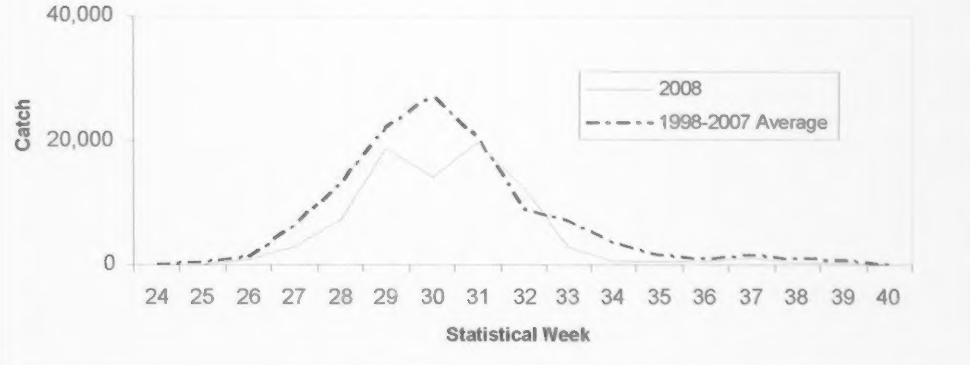


Figure 32. District 108 Gillnet Chum Catch



Harvest sharing of Stikine sockeye stocks is based on inseason abundance forecasts produced by the Stikine Management Model (SMM) (Table 34). The marine and inriver catches of planted Tuya fish were estimated from analysis of otoliths for thermal marks. Egg diameter analysis of inriver catches was used to estimate the relative abundances of Tahltan and Mainstem fish to Tuya fish in the Stikine River. The historical average weekly stock compositions were used to estimate the harvests of Tahltan and Mainstem Stikine sockeye salmon stocks in marine harvests. Based on these analyses and ratios, the Sumner Strait fishery (subdistricts 106-41 & 42) harvested 10,000 Stikine sockeye salmon, 47% of the total sockeye harvest in those subdistricts. The Clarence Strait fishery (subdistrict 106-30) harvested an estimated 1,000 Stikine sockeye salmon, 9% of the harvest in that subdistrict. It is estimated that the District 108 fishery harvested 30,000 Stikine fish, 84% of the total sockeye harvest in that area. A total of 50 subsistence fishing permits were issued and current estimate of the sockeye subsistence harvest for the Stikine River is 400 fish; the subsistence cap for the river is 600 sockeye salmon. An estimated 41,000 Stikine sockeye salmon were harvested in commercial gillnet fisheries from both districts, representing 62% of the total sockeye catch. Of these Stikine sockeye salmon, an estimated 22,000 fish were produced by the joint U.S./Canada fry-planting projects on the Stikine River.

Preliminary postseason run reconstruction estimates (Table 35) will differ from the inseason management model estimates (Table 34).

Table 34. Weekly forecasts of run size and total allowable catch for Stikine River sockeye salmon as determined inseason by the Stikine Management Model, 2008.

Stat.	Start	Forecast	TAC			Cumulative Catches	
Week	Date	Run Size	Total	U.S.	Canada	U.S.	Canada
25	15-Jun	228,600	160,643	80,321	80,321	2,128	492
26	22-Jun	228,600	160,643	80,321	80,321	11,242	5,495
27	29-Jun	236,028	172,359	86,180	86,180	23,577	14,368
28	6-Jul	209,495	140,172	70,086	70,086	26,690	21,648
29	13-Jul	185,719	118,220	59,110	59,110	34,356	24,560
30	20-Jul	185,819	118,040	59,020	59,020	31,266	26,606
31	27-Jul	171,091	101,686	50,843	50,843	36,916	29,858
32	3-Aug	173,005	104,050	52,025	52,025	36,986	29,858
33	10-Aug	170,514	101,817	50,908	50,908	38,356	33,213
34	17-Aug	169,743	101,030	50,515	50,515		
Preliminary end-of-season estimate		108,840	34,558	17,279	17,279	40,797	33,612

[a] Does not include test fishery catches

Table 35. Preliminary post season Stikine River sockeye salmon run reconstruction, 2008

					Tahltan	
	Tahltan	Mainst	Tuy	Total	Wild	Hatchery
Escapement[a]	10,516	14,496	8,2	33,	6,257	4,259
ESSR Catch[b]	0		1,9	1,9		
Biological Samples	100		290	390	56	44
Broodstock	2,364			2,3	1,324	1,040
Natural Spawning	8,052	14,496		22,	4,877	3,175
Excess[c]			6,0	6,0		
Canadian Harvest						
FSC fishery	2,459	423	1,5	4,4	1,355	1,104
Upper Commercial	293	43	169	505	160	133
Lower Commercial	13,926	4,007	10,	28,	7,741	6,185
Total	16,678	4,474	12,	33,	9,256	7,421
% Harvest	48.9%	34.4%	45.			
Test Fishery Catch	297	599	215	1,1	174	124
Inriver Run	27,491	19,569	20,	68,	15,687	11,803
U.S. Harvest[a]						
106-41&42	5,034	331	4,2	9,6	2,970	2,064
106-30	404	253	181	838	364	40
108	11,803	7,885	10,	29,	6,345	5,458
Subsistence	198	57	152	407	110	88
Total	17,439	8,526	14,	40,	9,789	7,650
% Harvest	51.1%	65.6%	54.			
Test Fishery Catch	0	0	0	0	0	0
Total Run	44,930	28,095	35,	108	25,477	19,453
Escapement Goal	24,000	30,000	0			
Terminal Excess[d]			19,			
Total TAC	20,632	0	16,	34,		
Total Harveste	34,414	13,599	29,	77,		
Canada TAC	10,316	0	8,2	17,		
Actual Catch[fg]	16,678	4,474	12,	33,		
% of total TAC	161.7%			194		
U.S. TAC	10,316	0	8,2	17,		
Actual Catch[fg]	17,439	8,526	14,	40,		
% of total TAC	169.0%			236		

[a] Escapement into terminal and spawning areas from traditional fisheries.

[b] Catch allowed in terminal areas under the Excess Salmon to Spawning Requirement license.

[c] Fish returning to the Tuya system are not able to access the lake where they originated due to velocity barriers.

[d] The number of Tuya fish that should be passed through traditional fisheries in order to harvest the Tuya stock at the same rate as the Tahltan stock to ensure adequate spawning escapement for Tahltan fish.

[e] Includes traditional, ESSR, and test fishery catches.

[f] Does not include ESSR or test fishery catches.

[g] U.S. harvest estimate differs from Joint Interception Committee estimate because no estimates are made for catches other than in the listed fisheries.

A number of stocks are known to contribute to the Wrangell/Petersburg area sport Chinook salmon fishery, including those from the Taku, Unuk, Chickamin, and King Salmon rivers as well as local hatchery stocks. But the major contributor of large, wild mature fish is believed to be the Stikine River. Preliminary estimates indicate that approximately 1,350 Chinook harvested in the Wrangell/Petersburg sport fishery were of Stikine River origin during 2008 (based on coded wire tag analysis and maturity data collected from onsite surveys).

Taku River Area Fisheries

The traditional 2008 District 111 commercial drift gillnet fishery salmon harvest totaled 2,193 Chinook, 116,693 sockeye, 37,349 coho, 90,162 pink, and 774,095 chum salmon (Table 36). Harvest of Chinook, coho, pink and chum salmon was 126%, 130%, 75% and 240% of the ten-year (1998-2007) traditional sockeye fishery period (week 25-41) averages, respectively. The harvest of sockeye salmon was 75% of the ten-year average. Hatchery stocks contributed significantly to the harvest of both sockeye and chum salmon, and minor numbers to the harvest of other species.

Table 36. Weekly salmon harvest in the Alaskan District 111 traditional commercial drift gillnet fishery, 2008.

Stat. Week	Start Date	Chinook [a]	Sockeye	Coho	Pink	Chum	Boats	Days [b]	Boat Days
25	15-Jun	779	4,030	5	0	1,469	44	2	88
26	22-Jun	472	5,247	18	8	12,449	59	3	177
27	29-Jun	338	6,414	121	351	113,896	77	4	308
28	6-Jul	224	5,511	318	2,548	167,795	116	3	348
29	13-Jul	62	20,576	300	4,261	169,915	112	2	224
30	20-Jul	110	30,152	1,251	9,392	181,961	135	3	405
31	27-Jul	66	27,190	2,002	18,277	81,433	141	3	423
32	3-Aug	27	12,218	2,881	38,510	33,596	114	3	342
33	10-Aug	26	2,819	3,453	13,349	6,198	84	2	168
34	17-Aug	38	1,652	4,301	3,056	2,167	51	3	153
35	24-Aug	3	451	4,999	367	1,087	32	3	96
36	31-Aug	27	237	6,961	42	988	47	3	141
37	7-Sep	17	86	6,486	1	989	39	3	117
38	14-Sep	3	104	1,893	0	101	24	3	72
39	21-Sep	0	5	2,193	0	51	13	3	36
40	28-Sep	0	0	154	0	0	4	3	12
41	5-Oct	Confidential information, less than 3 boats fishing.						3	
Total		2,193	116,693	37,349	90,162	774,095	181	49	3,112
1998-2007 Average [c]		1,740	156,349	28,711	120,942	322,797	165	57	3,370
2007 as % of 10 year average		126%	75%	130%	75%	240%	110%	86%	92%

[a] Chinook salmon catch includes Harvest Code 411 (jacks).

[b] The days open listed in this table reflect open fishing periods for all waters of District 11 except Speel Arm THA (111-33).

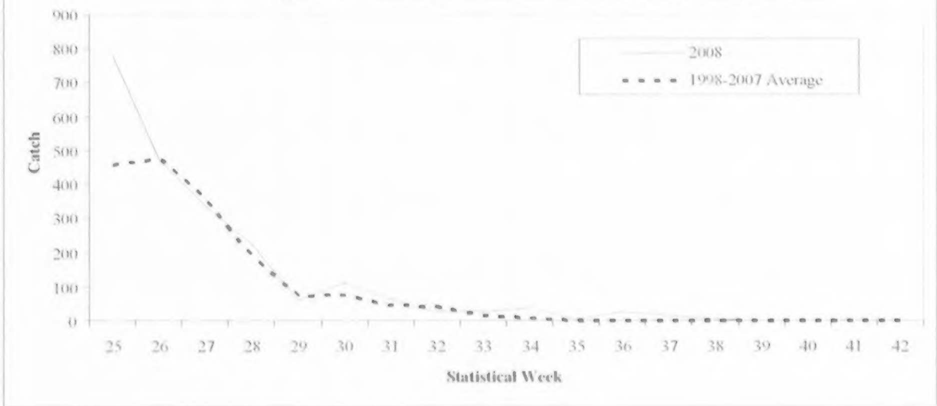
[c] The 1998-2007 averages are for the traditional sockeye fishery period (week 25-41) only.

The Speel Arm Terminal Harvest Area (THA) was not open to commercial fishing in 2008.

The District 111 directed Chinook salmon fisheries in May and early June were not open in 2008 due to the low pre-season forecast and subsequent inseason abundance estimates that did not provide any US Allowed Catch (AC). The traditional District 111 gillnet fishery on all species opened Sunday, June 15 (week 25).

The total Chinook salmon harvest in the 2008 traditional District 111 drift gillnet fishery was 2,193 fish. Chinook harvests for weeks 25-41 were 126% of the 1,744 fish ten year average for this period. Preliminary coded wire tag (CWT) analysis indicate Alaska hatcheries contributed approximately 930 fish, or 42% of the total 2008 District 111 Chinook salmon harvest.

Figure 33. District 111 Gillnet Chinook (large and jack) Catch



In the 2008 District 111 traditional drift gillnet fishery approximately 83% of the Chinook salmon (including jacks) were harvested from Taku Inlet, and 17% were harvested from Stephens Passage. The preliminary 2008 estimate of large Taku River Chinook salmon escapement is 21,300 fish, 56% of the ten-year (1998-2007) average of 38,002. The current escapement goal range is from 30,000 to 55,000 large Chinook salmon.

The total 2008 Taku River sockeye salmon run was estimated at 170,550 fish (Table 37). Based on the escapement goal midpoint of 75,000 wild Taku River sockeye, the TAC was 95,550 fish. The U.S. TAC was 72,380 Taku River sockeye (75% of the TAC). It is estimated that the total U.S. harvest of Taku River sockeye salmon was 80,656 fish, 84% of the TAC. Sockeye salmon produced from a joint U.S./Canada fry-planting program at Tatsamenie Lake contributed an estimated 10,140 fish, or 12.8% of the total US sockeye catch. An estimated 31,800 Snettisham Hatchery sockeye salmon were harvested in common property traditional fisheries in District 111.

The preliminary 2008 estimated above-border in-river wild Taku River sockeye run, based on mark-recapture estimates at Canyon Island, was 80,769 wild sockeye plus 9,125 salmon from Tatsamenie fry plants, for a total of 89,894 sockeye salmon. Subtracting the Canadian catch of 17,437 wild sockeye salmon (in addition to an estimated harvest of 1,807 planted Tatsamenie fish) the escapement was 63,400 wild fish, with an additional 7,300 enhanced fish for a total of 70,650 sockeye escaped past all fisheries, approximately equal to the lower bound of the 71,000 - 80,000 fish escapement goal range. Because a normal test fishery was not conducted during weeks 34-42 for second event sampling, the above border sockeye contribution for this time period was estimated from Canyon Island fish wheel CPUE data. Preliminary 2008 Taku River sockeye escapements for enumerated systems were approximately: Trapper Lake 3,818; Kuthai Lake 1,543; Tatsamenie Lake 8,976, and King Salmon Lake 894 fish. Escapements of sockeye salmon to Port Snettisham systems were poor, with 1,763 counted through a weir at Speel Lake, below the lower bound of the 4,000-13,000 fish escapement goal. The Crescent Lake sonar reported a net upstream count of approximately 1,903 fish, which was not separable by species. It is known that all species of Pacific salmon do enter Crescent Lake; however sockeye is the predominant species.

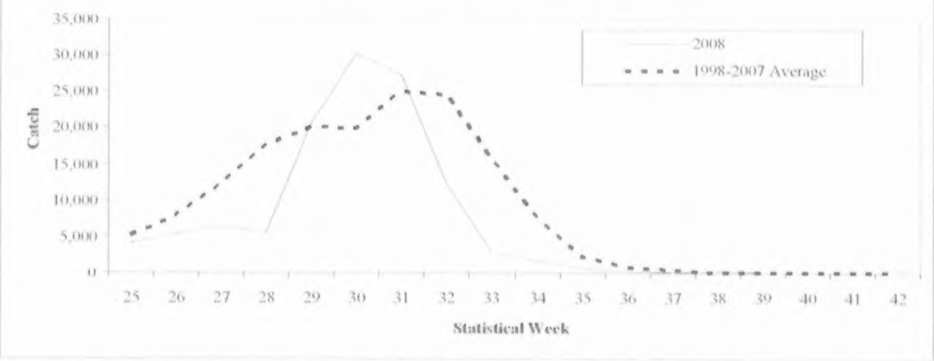
Table 37. Preliminary Taku sockeye salmon run reconstruction, 2008.{Estimates do not include spawning escapements below the U.S./Canada border.

Estimated Taku Inriver Run	89,894
Estimated U.S. Catch Taku Fish	80,656
Total Run	170,550
Escapement Goal	75,000
Escapement	70,650
TAC	95,550
U.S. TAC	72,380
U.S. Harvest Share (catch/total TAC)	0.844
Canada TAC	23,170
from .18 of total TAC	23,170
from .20 of inriver run >100,000	0
Estimated Canada Catch	19,244
Canada Harvest Share (catch/total TAC)	0.201

[a] United States and Canada TAC computations based on harvest sharing arrangement described in Annex IV, Chapter 1, (3)(b)(1)(i).

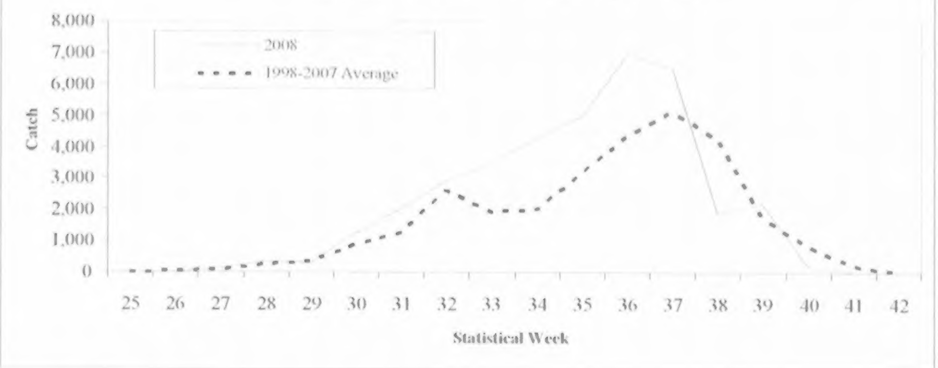
The 2008 sockeye catch in the District 111 drift gillnet fishery was 116,693 which is 75% of the 1998-2007 average. Sockeye catches were below average throughout the season (Figure 34).

Figure 34. District 111 Gillnet Sockeye Catch



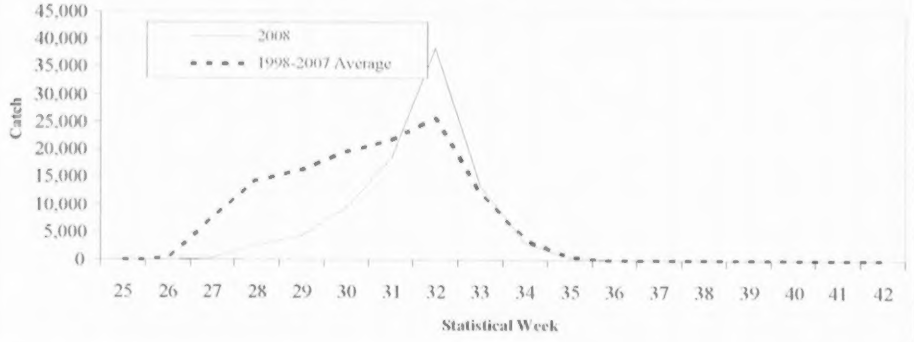
Coho stocks harvested in District 111 include runs to the Taku River, Port Snettisham, Stephens Passage, and local Juneau area streams as well as Alaskan hatcheries. The 2008 coho harvest of 37,349 fish was 130% of the 10-year (1998-2007) average (Figure 35). Approximately 80% of the coho were harvested in Taku Inlet (equaling the ten-year average of 81%); and 20% were harvested from Stephens Passage. Alaskan hatchery coho salmon contributed 2,450 fish or 7% of the District 111 harvest. Weekly coho harvests were generally above average throughout the season with the exception of weeks 26, 45, 40, and 41. The week 36 harvest of 6,961 fish was the peak week of coho harvest for the 2008 drift gillnet fishery. For most of the season, weekly estimates of Taku River coho abundance indicated a below average run size. The inriver abundance estimate of coho salmon above Canyon Island was 89,350, 79% of the ten-year (1998-2007) average of 113,300. The cumulative Canadian coho harvest was approximately 3,770 fish. The coho escapement for the Taku River was estimated to be approximately 85,600 fish, surpassing the minimum in-river goal of 38,000.

Figure 35. District 111 Gillnet Coho Catch



The District 111 pink salmon harvest of 90,162 fish was 75% of the ten-year (1998-2007) average (Figure 36). The 2008 pink salmon escapement to the Taku River was unknown; however, the number of pink salmon passing through the fish wheels at Canyon Island was used as an index of escapement. The 2006 (parent year) Canyon Island pink salmon fish wheel catch was 21,725 fish. The 2008 Canyon Island pink salmon fish wheel catch of 4,704 was 22% of the 1986-2006 even-year average.

Figure 36. District 111 Gillnet Pink Catch



The catch total of 774,095 chum salmon was 240% of the ten-year (1998-2007) average, and was comprised almost entirely of summer run fish (99%) (Figure 37). The summer chum run is considered to last through mid-August (week 33) and is comprised mostly of domestic hatchery fish with small numbers of wild stock fish contributing. Chum salmon returning both to DIPAC hatcheries in Gastineau Channel and to the DIPAC remote release site at Limestone Inlet contributed a major portion of the harvest, but quantitative contribution estimates are not available. Approximately 65% of the District 111 chum harvest was made in Taku Inlet, and 35% in Stephens Passage. The harvest of 5,383 fall chum salmon (i.e. chum salmon caught after week 33) was 131% of the ten-year (1998-2007) average. Most of these chums are probably of wild Taku and Whiting River origin. Escapement numbers to the Taku River chum are unknown; however, the numbers of fall chum passing through the fish wheels at Canyon Island were used as an index of escapement. The index number for 2008, 330 chum salmon is 105% of the 1998-2007 average.

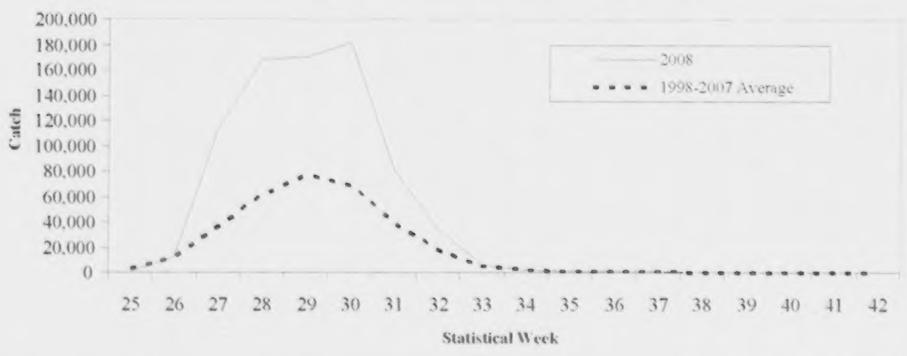


Figure 37. District 111 Gillnet Chum Catch

Several other fisheries in the Juneau area harvested Taku River salmon stocks in 2008. Personal use permits were used to harvest an estimated 1,500 Taku River sockeye salmon. A number of stocks are known to contribute to the Juneau area sport fishery, including those from the Taku, Chilkat, and King Salmon rivers, and local hatchery stocks, but the major contributor of large, wild mature fish was believed to be the Taku River. Preliminary estimates indicate that approximately 1,530 of the Chinook harvested in the Juneau sport fishery were of Taku River origin (based on coded wire tag analysis and maturity data from onsite survey data).

Transboundary River Joint Enhancement Activities

The transport of sockeye fry back to the Canadian lakes took place between May 28 and June 16, 2008. This season saw a very late ice-out on the Canadian lakes and had many weather delays. Close to 6 million fry were released in the Canadian Tahltan, Tuya, Tatsamenie and Trapper Lakes. Fry transported were released directly from the aircraft into the lakes with one exception. An extended rearing project in net pens at Tatsamenie Lake was funded by the Pacific Salmon Commission Northern Fund. There were 100,000 fry which were to be held until August with an expected growth to 4 grams. Unfortunately all fry were lost to IHN Virus.

Table 38. Summary of numbers and survival rates of brood year 2007 sockeye salmon fry released May-June 2008. Fish were raised at Snettisham Hatchery as part of the Transboundary River Salmon Enhancement Project.

Brood Stock	Release Site	Number of Trips	Survival Rate to Eyed Stage	Survival Rate to Release	Number Released
Tahltan	Tahltan	3	75.6%	69.7%	1,536,887
Tahltan	Tuya	3	85.6%	83.0%	1,539,675
Tatsamenie	Tatsamenie	6	88.5%	68.7%	2,522,024
Trapper	Little Trapper	1	60.4%	39.3%	353,175
	Average/Totals	13			5,951,761

Brood Year 2008 Activities

Brood year 2008 TBR egg takes were initiated on September 7th at Tahltan Lake, and September 22nd at Tatsamenie Lake. An estimated total of 8.1 million green eggs were collected from the two donor lakes. Due to lowered adult escapement into Little Trapper Lake, only 100,000 eggs were collected from this stock, those eggs were planted in Tunjony Creek, a tributary of Big Trapper Lake.

Tahltan Lake eggtakes were completed on September 25th with an estimated 3.16 million eggs. The receipt of one lot of Tahltan eggs was delayed by 2 days, and two others by 1 day, due to unfavorable weather conditions. Tatsamenie Lake eggtakes were completed on October 23rd with an estimated 5.0 million eggs. The receipt of one lot of Tatsamenie eggs was delayed by 2 days, and three others by 1 day, also due to unfavorable weather conditions.

During the 2008 season the ADFG thermal mark lab processed 14,037 sockeye otoliths collected by ADFG and DFO staff as part of the U.S./Canada fry-planting evaluation program. These collections came from commercial and test fisheries in U.S. waters and in Canadian fisheries on the Taku and Stikine Rivers over a 14-week period. In addition, several escapement samples were examined. The laboratory provided estimates on hatchery contributions for almost 90 distinct sampling collections. Estimates of the percentage of hatchery fish contributed to commercial fishery catches were provided to ADF&G and DFO fishery managers 24 to 48 hours after samples arrived at the lab.

Alsek River Area Fisheries

Although harvest sharing arrangements of Alsek salmon stocks between Canada and the U.S. have not been specified, Annex IV of the Pacific Salmon Treaty does call for a cooperative attempt to rebuild depressed Chinook and early-run sockeye stocks. Preseason expectations were for slightly above average returns of sockeye and Chinook salmon. These expectations were based on parent-year escapements to the Klukshu River. The Alsek River commercial fishery opened on the first Sunday in June, statistical week 23 (June 1). The initial opening remained at 24 hours. Sockeye salmon CPUE remained very poor throughout the season, and fishing times remained at one day for the first eight weeks of the season. The Alsek was closed to commercial fishing for statistical weeks 31 and 32 as a conservation measure, and when it reopened during statistical week 33 fishing time remained at one day. Coho salmon are targeted from mid-August on and effort becomes minimal. Fishing times remained at three days per week for the entire coho salmon season. The Alsek River remained open through the second week in October, and the river was not fished during the last week of the season.

The 2008 Dry Bay commercial set-gillnet fishery harvested 128 Chinook, 2,870 sockeye, and 2,668 coho salmon. No pink and 2 chum salmon were harvested. A test fishery was conducted on the Alsek River for Chinook salmon in 2008, and that fishery produced another 465 Chinook and 55 sockeye salmon, for a total harvest of 593 Chinook and 2,870 sockeye salmon (Table 39). The Chinook salmon harvest was slightly above the 1998-2007 average, the sockeye salmon harvest was below average. The coho salmon harvest was slightly below average. Very little effort was recorded during the coho season due to market conditions, although the coho salmon harvest was the highest recorded in the past five years. The number of fishing days was 33. The total effort expended in the fishery was 201 boat-days, which was below average.

Table 39. Weekly catch and effort in the U.S. commercial fishery in the Alsek River, 2008.

Statistical	Start	Catch						Effort	Permit
Week	Date	Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Days
23	1-Jun	99	11	0	0	0	13	1	13
24	8-Jun	142	83	0	0	0	13	1	10
25	15-Jun	195	229	0	0	0	10	1	10
26	22-Jun	45	238	0	0	0	13	1	13
27	29-Jul	15	761	0	0	0	14	1	14
28	6-Jul	1	521	0	0	0	14	1	14
29	13-Jul	1	785	0	0	0	13	1	13
30	20-Jul	1	107	0	0	0	9	1	9
31-32	27-Jul	CLOSED							0
33	10-Aug	0	34	11	0	0	3	1	3
34	27-Sep	0	21	351	0	0	6	3	18
35	24-Aug	0	74	428	0	2	6	3	18
36	31-Aug	0	2	582	0	0	6	3	18
37	7-Sep	0	0	590	0	0	4	3	12
38-41	14-Sep	0	1	706	0	0	3	12	36
Total[a]		593	2,870	2,668	0	2	20	33	201
1998-2007 Average		574	14,559	3,268	2	20	21	53	304
2008 as % of Avg.		103%	20%	82%	0%	10%	95%	62%	66%

[a] Totals include fish taken in test fishery prior to statistical week 24.

Southeast Alaska Chinook Salmon Fishery

All Gear Harvest

The 2008 postseason Chinook salmon target harvest level was determined using the preseason abundance index of 1.07 generated with the CTC model calibration #0807. The corresponding target harvest of 169,950 was identified using Table 1 of Chapter 3. The preliminary estimated Chinook salmon harvest by all Southeast Alaska fisheries was 236,439 fish (Table 40). The treaty harvest (total minus the add-on and terminal exclusion harvest) was 164,108 fish, 3.4% below the target harvest of 169,950.

Table 40. Chinook all-gear harvests[1] in Southeast Alaska, 1987 to 2008, and deviation from the ceiling for years for which there were ceilings. Harvests are in thousands.

Year	Total Harvest	Add-on and Exclusion Harvest	Target Treaty Harvest	Treaty Harvest	Deviation Number	Deviation Percent
1987	282.4	17.1	263.0	265.3	2.3	0.9%
1988	279.3	22.5	263.0	256.8	-7.8	-3.0%
1989	291.0	21.5	263.0	269.5	6.5	2.5%
1990	366.9	45.9	302.0	321.0	19.0	6.3%
1991	359.5	61.5	273.0	298.0	25.0	9.2%
1992	258.8	36.8	227.4	222.0	-5.4	-2.4%
1993	304.1	32.9	263.0	271.2	8.2	3.1%
1994	264.4	29.2	240.0	235.2	-4.8	-2.0%
1995	235.7	58.8		176.9		
1996	236.3	81.3		155.0		
1997	343.0	56.3		286.7		
1998	270.6	27.4	260.0	243.2	-16.8	-6.5%
1999	251.0	52.2	184.2	198.8	14.6	7.9%
2000	263.3	76.8	178.5	186.5	8.0	4.5%
2001	265.7	78.8	250.3	186.9	-63.4	-25.3%
2002	426.5	69.4	371.9	357.1	-14.8	-4.0%
2003	443.2	59.9	439.6	380.1	-56.3	-12.8%
2004	503.0	82.2	418.3	428.8	2.5	0.6%
2005	502.8	106.1	416.4	386.7	9.2	2.4%
2006	443.9	80.8	354.5	354.8	8.5	2.4%
2007	410.2	79.7[2]	259.2	317.2	71.2	27.5%
2008[1]	236.4	72.3[2]	170.0	164.1	-5.8	-3.4%

[1] The actual target harvest and deviation cannot be calculated until the CTC completes the postseason calibration.

[2] The 2007 and 2008 exclusion harvests are still preliminary pending genetic stock composition estimates of the District 108 fishery

Troll Fishery

The winter troll fishery harvested 21,824 Chinook salmon from October 11, 2007 through April 30, 2008. A total of 2,865 fish were from Alaska hatcheries with 2,455 fish counting toward the Alaska hatchery add-on.

Spring fisheries were conducted prior to the July general summer opening. The spring troll fisheries are designed to increase the harvest of Alaskan hatchery-produced Chinook salmon and occur primarily in inside waters near hatchery release sites or along migration routes of returning hatchery fish. Terminal fisheries are a portion of the spring fisheries and occur directly in front of hatcheries or at remote release sites. While there is no ceiling on the number of Chinook salmon harvested in the spring fisheries, the take of Treaty Chinook salmon is limited according to the percentage of the Alaskan hatchery fish taken in the fishery. The troll harvests in 2008 were: 4,994 fish in the terminal fisheries, 36,620 fish in the general spring fisheries and a preliminary estimate of 1,295 in the Stikine exclusion fisheries. A total of 48% (17,680) of the Chinook salmon landed in these fisheries were from Alaska hatcheries of which 15,150 counted toward the Alaska hatchery add-on.

In the 2008 summer troll season there were two Chinook salmon retention periods: July 1-5 and August 16-21. The fishery harvested 88,886 Chinook salmon of which 3,873 fish (4.4%) were from Alaska hatcheries (3,319) counting toward the Alaska hatchery add-on).

The total harvest for the troll fishery in the 2008 accounting year was 151,906 Chinook salmon, with 125,772 counting as Treaty harvest.

Net Fisheries

With the exception of directed gillnet harvests of Chinook in SEAK terminal area regulatory districts 108 and 111 targeting Chinook as provided in the transboundary river agreement, harvests of Chinook salmon in the net fisheries are primarily incidental to the harvest of other species and only constituted a small fraction (<1.0%) of the total net harvest of all species. The directed District 108 Stikine Chinook fisheries were conducted in 2008, but the District 111 Taku Chinook fisheries did not occur due to low returns. In 2008, the net fisheries harvested approximately 46,162 Chinook salmon of which approximately 12,674 counted as Treaty harvest. These numbers are very preliminary at this time due to the ongoing genetic stock composition analysis that has not yet been completed.

Recreational Fisheries

The 2008 recreational fishery had an estimated preliminary harvest of 38,371 Chinook salmon of which 25,662 counted as Treaty harvest. The final total and Treaty harvest in the sport fishery for 2008 will be available in late fall of 2009. Comparisons of the 2008 recreational fishery harvest with recent years indicate that the preliminary harvest of 38,371 fish is 55% below the recent five-year average and 49% below the recent ten-year average. The freshwater recreational fishery for Chinook salmon 20 inches or greater in length in the Situk River near Yakutat was set to catch and release only during the 2008 season due to low projected escapement levels for that system.

Due to the extremely low preseason abundance index generated for the SEAK AABM fishery in spring 2008 (and resulting low all-gear quota), severe harvest restrictions were implemented on the sport fishery in an effort to keep harvests below the harvest ceiling as directed by the SEAK King Salmon Management Plan. Management measures resulted in Treaty harvests near zero after July 15th due to a 48 inch minimum size restriction invoked on non-resident anglers. Also during 2008, genetic samples were collected from 2,925 large Chinook salmon (28 inches of greater in Total Length), 91 genetic samples from small Chinook salmon (under 28 inches in TL) in Terminal Harvest Areas (THAs), and 346 genetic samples were collected from small Chinook salmon harvested outside of THAs.

Southeast Alaska Coho Salmon Fisheries

Attachment B of the June 30, 1999 U.S.-Canada Agreement relating to the Pacific Salmon Treaty specifies provisions for inseason conservation and information sharing for northern boundary coho salmon. In 2007, troll CPUE in Area 6 in the early weeks of the fishery averaged 27.2, which is above the highest boundary area conservation trigger of 22. The mid-July projection of region-wide total commercial harvest was greater than the 1.12 million trigger for an early region-wide troll closure, specified in Alaska Board of Fisheries regulation and the PST conservation agreement.

The 2008 all-gear catch of coho salmon totaled 2.25 million fish of which 2.05 million (91%) were taken in commercial fisheries (Table 41). The troll catch of 1.29 million fish was well below the 10-year average of 1.61 million fish and accounted for 63% of the commercial catch. Average weekly power troll CPUE averaged 21% lower than the 10-year average. Overall region wild stock abundance appeared slightly below the 10-year average. The average dressed weight of 7.4 lbs. for fish landed by power trollers was 10% above average and was the 4th largest average weight in the past 34 years. While the harvest of coho salmon in seine fisheries (225,800 fish) was only 62% of the 10-year average, the drift gillnet harvest of 377,500 fish was 110% of the 10-year average. Runs were relatively strong in the Yakutat area and the set gillnet harvest of 153,700 fish was near the 10-year average. A very preliminary estimate of the Southeast Alaska sport catch of 200,600 fish was only 71% of the 10-year average.

Wild production accounted for 1.66 million fish (81%) in the commercial catch compared with a recent 10-year average of 1.98 million fish (80%). Of the estimated hatchery contribution of 393,000 fish, over 99% originated from facilities in Southeast Alaska. Marine survival rates were near average for most indicator systems. Moderate exploitation rates resulted in escapements that were within or above goal throughout the region. Combined peak spawner counts in the Ketchikan area reached a record 19,042 spawners for the 14 streams in the index, far above the goal of 4,250-8,500 spawners. The high aggregate escapement index was influenced by extremely high counts in two streams in eastern Behm Canal, the Blossom River (7,100 spawners) and Humpback Creek (2,600 spawners). The total escapement of 1,741 spawners to Hugh Smith Lake ranked 7th highest in 27 years and was above the recently revised biological goal range (500-1,600 spawners).

Exploitation rate estimates for indicator stocks were mostly below-average while troll fishery exploitation rates were all well below-average. The troll fishery exploitation rate of only 19% for the Hugh Smith Lake stock was the second lowest rate on record and well below the 1982-2007 average of 37%. However, drift gillnetters accounted for an exploitation rate on the stock of about 22%, one of the highest rates on record for that gear group. Returning adults were large and mature-appearing. Much of the Hugh Smith Lake run departed outer coastal waters and entered the Tree Point gillnet fishery and the spawning stream earlier than usual which may have accounted for the below-average exploitation rate and a larger harvest by gillnet fisheries compared with hook-and-line fisheries. The all-gear exploitation rate on the stock (52%) was well below the 1982-2007 average of 65%.

The 2008 region-wide summer troll coho fishery began on July 1 and ended on September 20, with a mid-season closure from August 11-15. A season extension to September 30 was not implemented because of below-average abundance throughout most of the region.

Table 41. Coho salmon harvest in Southeast Alaska in 2008 by gear type (preliminary).

Gear Type	Harvest
Troll	1,293,000
Purse Seine	225,800
Drift Gillnet	377,500
Set Gillnet	153,700
Sport (marine and freshwater)	200,600
Total	2,250,600

Preliminary 2008 Chinook and Coho Salmon Catches in Washington and Oregon Fisheries

The 2008 season was conducted under the renewed Annex IV arrangements of the Pacific Salmon Treaty. This report covers the fisheries that occur between Cape Falcon and the U.S./Canadian border. These fisheries are subject to the Chinook Individual Stock Based Management (ISBM) obligations contained within the 1999 Agreement and the Southern Coho Management Plan adopted in 2002.

Descriptions of the preseason planning process, various regional fisheries, their general management constraints, and preliminary estimates of landed catch are listed in the following subsections. Tables 42 and 43 contrast preseason projections of catches with the preliminary estimates of landed catch for Chinook and coho in the various 2008 fisheries of interest to the Pacific Salmon Commission. For historical perspective, catches for those fisheries since 1998 are also presented. Complete 2008 fishery catch reports (e.g., Puget Sound recreational catch estimates) and preliminary estimates of spawning escapements are not available at this time.

Preseason Planning

Southern U.S. regional management coordination occurs within the preseason Pacific Fisheries Management Council process commonly referred to as "North of Falcon". Within this process, participants evaluate the biological and social/economic consequences of options for the outside (ocean) and inside (marine and freshwater) fisheries. The final product is a total fishery package that achieves both domestic and Pacific Salmon Treaty obligations evaluated by analysis of pre-season stock-specific abundance estimates and the expected performance of fisheries.

Chinook Salmon Management

Under the 1999 Pacific Salmon Treaty Agreement, Council fisheries are subject to the Individual Stock Based Management provisions of Annex IV, Chapter 3. These provisions require the adult equivalent harvest rate by all U.S. fisheries south of the U.S./Canada border to be reduced by 40% from the 1979-1982 base period for Chinook stocks failing to achieve escapements at or above established escapement goals. Fishing levels and patterns were defined to meet provisions of the U.S. Endangered Species Act (ESA) for threatened and endangered Chinook salmon stocks originating from Puget Sound and the Columbia River. The 2008 U.S. ocean fishery seasons in the area north of Cape Falcon, Oregon, were constrained primarily by the need to meet management objectives for the ESA listed lower Columbia River natural tule fall Chinook stocks. Puget Sound fisheries were constrained by the need to meet management objectives for ESA listed Puget Sound Chinook, including Stillaguamish River Chinook.

Coho Salmon Management

All U.S. natural spawning coho management units defined by the Southern Coho Management Plan were forecasted to be in low or moderate status, so exploitation rate caps for U.S. fisheries on U.S. management units constrained southern U.S. mix-stock fisheries. Seasons and quota levels for U.S. ocean fisheries were constrained primarily by the management objectives of ESA listed lower Columbia River natural coho. As with seasons since 2003, the Interior Fraser management unit was a key stock of concern with an exploitation rate cap of 10% for the southern U.S. fisheries.

North of Cape Falcon Ocean Fisheries

Chinook fisheries in this area are managed to meet objectives for ESA listed stocks, depressed Columbia River natural stocks and brood stock needs for hatchery fall Chinook. Within these constraints, ocean fishing seasons are defined that meet legal requirements of Indian fishing treaties and allocations between non-Indian commercial and recreational fisheries. Ocean fishery seasons are also constructed to ensure a balance of opportunity for harvest with inside (marine and freshwater) fisheries. Lower Columbia River and Bonneville Pool hatchery fall Chinook have historically been the major stocks contributing to catches of ocean fisheries in the North of Cape Falcon area.

Chinook and coho salmon catch quotas were defined for the 2008 ocean Treaty Indian, Non-Treaty commercial and recreational fisheries. Quotas for Chinook salmon were defined principally by management objectives for ESA-listed lower Columbia River natural tule fall Chinook stocks. Quotas for coho salmon in 2008 were defined principally by management objectives of lower Columbia River wild coho.

Non-Treaty Troll Fishery

Pre-season non-Tribal troll had quota levels of 20,000 Chinook and 4,000 coho (with healed ad-clip); the coho quota was reduced in-season to 3,000 following a transfer to the Area 1 recreational fishery. The preliminary estimates of non-Tribal harvest in the 2008 North of Falcon troll fishery are 14,024 Chinook, (70% of the quota), and 2,071 coho (69% of the revised quota). Trollers harvested 11,114 Chinook in the May 1-June 30 Chinook-only fishery and the remaining 2,910 Chinook were harvested in the all-species fishery between July 1 and September 16. The coho catch represents harvest in a mark-selective fishery (healed adipose fin-clips).

Recreational Fisheries

Pre-season quotas for the recreational fishery were 20,000 Chinook and 24,350 coho (with healed ad-clip), including 4,000 marked coho allocated to an Area 4B add-on fishery. Total catches for the ocean recreational fisheries north of Cape Falcon were 15,541 Chinook (78% of the coastwide quota) and 20,932 coho (86% of the coastwide quota). A description of the resulting season structure and catches by management area follows.

Columbia River Ocean Area (Including Oregon)

Ocean Area 1 (Columbia Ocean Area) opened for recreational Chinook-only fishing on Sunday, June 1on a preseason guideline of 5,300 Chinook. The fishery closed on its automatic closure date, June 28. The total catch is estimated at 344 Chinook (6% of the guideline). Recreational all-species salmon fishing opened in the area on Sunday, June 29 with a quota of 10,180 marked coho (revised inseason to 11,380 following a transfer from the non-Treaty troll fishery) and the remainder of the 5,300 Chinook guideline from the Chinook-only fishery. The fishery closed on August 17 upon attainment of the coho quota. The catch estimates for Area 1 during the all-species fishery are 3,341 Chinook (67%) and 10,845 coho (95% of the revised quota). The Chinook minimum size limit was 24 inches, with a sub-area closure in the Columbia Control Zone.

Westport

Ocean Area 2 (Westport) opened for recreational Chinook-only fishing on Sunday, June 1on a preseason quota of 8,200 Chinook total for Ocean Areas 2 – 4 (Leadbetter Point to U.S./Canada border). The fishery closed on its automatic closure date, June 28. The catch in Area 2 is estimated at 1,113 Chinook, and the total catch in Areas 2 – 4 is estimated at

1,498 (18% of the quota). Recreational all-species salmon fishing opened on Sunday, June 29 with a quota of 7,520 marked coho and a pre-season guideline of 5,100 Chinook (increased to 10,270 following rollover of remaining quota from the Chinook-only fishery). The fishery closed on its automatic closure date, September 13. The catch estimates for Area 2 during the all-species fishery are 8,637 Chinook (84% of the revised quota) and 7,485 coho (100% of the quota). The Chinook minimum size limit was 24 inches. Grays Harbor Control Zone was closed beginning August 1.

La Push

Ocean Area 3 (La Push) opened for recreational Chinook-only fishing on Sunday, June 1on a preseason quota of 8,200 Chinook total for Ocean Areas 2 – 4 (Leadbetter Point to U.S./Canada border). The fishery closed on its automatic closure date, June 28. The catch in Area 3 is estimated at 80 Chinook, and the total catch in Areas 2 – 4 is estimated at 1,498 (18% of the quota). All-species recreational salmon fishing opened in the Area on Tuesday, July 1 with a quota of 590 coho and a pre-season guideline of 450 Chinook (increased to 495 following rollover of remaining quota from the Chinook-only fishery). The fishery closed on its automatic closure date, September 13, and reopened September 20 through October 5. The catch estimates for Area 3 during the all-species fishery are 657 Chinook (9% over the revised quota) and 542 coho (92% of the quota). The Chinook minimum size limit was 24 inches.

Neah Bay

Ocean Area 4 (Neah Bay) opened for recreational Chinook-only fishing on Sunday, June 1on a preseason quota of 8,200 Chinook total for Ocean Areas 2 – 4 (Leadbetter Point to U.S./Canada border). The fishery closed on its automatic closure date, June 28. The catch in Area 4 is estimated at 305 Chinook, and the total catch in Areas 2 – 4 is estimated at 1,498 (18% of the quota). All-species recreational salmon fishing opened in the Area on Tuesday, July 1 with a quota of 6,060 marked coho (including 4,000 allocated to an Area 4B add-on fishery to open upon attainment of the ocean quota of 2,060) and a pre-season guideline of 950 Chinook (increased to 1,435 following rollover of remaining quota from the Chinook-only fishery). The fishery closed on August 25 upon attainment of the ocean coho quota of 2,060 and reopened in Area 4B only on August 26 operating under the quota of 4,000 marked coho. The Area 4B add-on fishery closed on its automatic closure date, September 13. The catch estimates for Area 4 during the all-species ocean fishery and the Chinook non-retention 4B add-on fishery are 1,075 Chinook (75%) and 2,191 coho (36% of the quota). The Chinook minimum size limit was 24 inches.

Treaty Troll Fishery

The Treaty troll fishery was constrained by a Chinook quota of 37,500 and a coho quota of 20,000. The season was comprised of a May/June Chinook directed fishery and a July 1 through September 15 all species fishery. The season concluded with a catch of 21,100 Chinook (56% of the quota) and 14,400 coho (72% of the quota).

Washington Coastal Terminal Fisheries

North Washington Coastal Rivers

Net and sport fisheries directed at salmon in this region were implemented based upon pre-season, Tribal-State agreements and subject to in-season adjustment. The north coastal rivers net harvest (all by Tribal fisheries) includes catch for the Quillayute, Hoh, Queets, and Quinault rivers. The 2008 commercial net fisheries in north coastal rivers have harvested an estimated 3,800 Chinook and 24,700 coho. Recreational fishery harvest estimates are unavailable at this time.

Grays Harbor

Net and sport fisheries directed at salmon in Grays Harbor are implemented based upon pre-season, Tribal-State agreements and subject to in-season adjustment. Harvest for Grays Harbor includes catch from both the Humptulips and Chehalis rivers. The 2008 Tribal net fisheries have harvested an estimated 1,300 Chinook salmon and 7,800 coho salmon. Non-Indian commercial fisheries have harvested 566 Chinook salmon and 7,770 coho salmon. Recreational fishery harvest estimates are unavailable at this time.

Columbia River Fisheries

Treaty-Indian and non-Indian commercial and sport fisheries for Chinook and coho in 2008 occurred during the winter/spring (February-June 15), summer (June16-July) and fall (August-October) periods. All fisheries were constrained by impacts on ESA-listed stocks. Winter/spring fisheries were primarily constrained by impacts on ESA-listed upper Columbia River, Snake River spring/summer Chinook and wild winter steelhead. Summer fisheries were constrained by impacts to ESA-listed Snake River sockeye and wild Snake River steelhead. Fall fisheries were constrained by impacts to ESA-listed wild Snake River and wild Lewis River bright fall Chinook.

Winter-Spring Fisheries

Non-Indian Commercial

Winter sturgeon fisheries were conducted during January 8 through February 29. A total of 14 fin-clipped Chinook were landed. The non-Indian winter/spring salmon fishery was conducted as a mark-selective fishery using tangle nets (4 ¼ inch mesh) during April 1, April 8 and April 15. A total of 5,529 adipose fin-clipped Chinook were harvested in mainstem fisheries. Select Area Fisheries (SAFE) also occurred outside of the mainstem Columbia River. SAFE harvest includes fin-clipped and non-fin-clipped Chinook and totaled 3,469 fish.

Recreational

The 2008 mainstem recreational fishery operated under mark-selective fishery regulations. In the area below Bonneville Dam, nearly 103,000 angler trips resulted in 20,040 adipose fin-clipped Chinook being landed. The fishery below Bonneville Dam was open January 1 - April 20 with specific area and time restrictions in place. The majority of the catch occurred during April. Mark-selective recreational fisheries also occurred in the area from Bonneville Dam upstream to the Highway 395 Bridge (near Pasco, Washington), in the Snake River and on the bank of the mainstem Columbia River near the Ringold Hatchery. Harvest from these fisheries totaled 1800, 500 and 25 respectively. Recreational fisheries are also conducted in the Select Area (SAFE) sites. 2008 harvest is estimated at 200 Chinook. SAFE harvest includes fin-clipped Chinook.

Treaty Indian

Six weekly (2.5 days to 3.5 days) commercial fishing periods were conducted during June 23 through July 31. Harvest totaled 8,400 Chinook. Platform/ hook & line fisheries also occurred throughout the summer season in the mainstem Columbia River. Harvest from these fisheries account for an additional 700 Chinook. All harvest includes fin-clipped and non fin-clipped Chinook.

Summer Fisheries

Non-Indian Commercial

Early fall mainstem fisheries consisted of seven fishing periods during the month of August. Preliminary harvest estimates total 14,400 Chinook and 78 coho. Late fall mainstem fisheries consisted of 23 fishing periods during September 18 through October 31. The majority of the season occurred above the mouth of the Lewis River (Zones 4-5) to protect ESA listed Chinook and coho. Preliminary harvest estimates total 13,662 Chinook and 13,029 coho. Select Area Fisheries (SAFE) also occurred outside of the mainstem Columbia River throughout the fall season. Harvest from Select Areas totaled 3,469 Chinook. Mainstem and SAFE harvest includes fin-clipped and non-fin-clipped Chinook

Recreational

The summer season below Bonneville Dam consisted of an eight-day fishery during June 21-28. An estimated 30,500 angler trips resulted in 2,050 kept Chinook. The area from Bonneville Dam upstream to Priest Rapids Dam was open during June 16 through July 1 with a catch estimate of 800 Chinook. Recreational fisheries were also conducted in the Select Area (SAFE) sites. 2008 harvest is expected to be minimal, likely less than 50 Chinook. Mainstem and SAFE harvest includes fin-clipped and non fin-clipped Chinook.

Treaty Indian

Six weekly (2.5 days to 3.5 days) commercial fishing periods were conducted during June 23 through July 31. Harvest totaled 8,400 Chinook. Platform/ hook & line fisheries also occurred throughout the summer season in the mainstem Columbia River. Harvest from these fisheries account for an additional 700 Chinook. All harvest includes fin-clipped and non fin-clipped Chinook.

Fall Fisheries

Non-Indian Commercial

Early fall mainstem fisheries consisted of seven fishing periods during the month of August. Preliminary harvest estimates total 14,400 Chinook and 78 coho. Late fall mainstem fisheries consisted of 23 fishing periods during September 18 through October 31. The majority of the season occurred above the mouth of the Lewis River (Zones 4-5) to protect ESA listed Chinook and coho. Preliminary harvest estimates total 13,662 Chinook and 13,029 coho. Select Area Fisheries (SAFE) also occurred outside of the

mainstem Columbia River throughout the fall season. Harvest from Select Areas totaled 3,469 Chinook. Mainstem and SAFE harvest includes fin-clipped and non-fin-clipped Chinook.

Recreational

The 2008 Buoy 10 fishery (from the mouth upstream to the Tongue Point/Rocky Point line) was open for Chinook retention during August 1 – 24 and open for adipose fin-clipped coho retention during August 1-31. Preliminary harvest estimates total 8,275 Chinook and 6,055 adipose fin-clipped coho from 28,700 angler trips. The mainstem Columbia River (from the Tongue Point/Rocky Point line upstream to Hwy 395 Bridge at Pasco) opened for Chinook and coho on August 1. Non-adipose fin-clipped coho were released downstream from Hood River Bridge. In the lower Columbia River (downstream of Bonneville Dam) Chinook retention was allowed only during September 1-16 and with sanctuaries in place to protect ESA listed Chinook. The fishery re-opened to Chinook retention September 20 as a result of run size upgrades. Preliminary harvest estimates below Bonneville Dam total 11,930 Chinook and 1,000 adipose fin-clipped coho from 80,000 angler trips. The fishery will remain open through December for Chinook and adipose fin clipped coho retention. Recreational fisheries are also conducted in the Select Area (SAFE) sites. 2008 harvest is estimated at 100 Chinook. Recreational fisheries occurring between Bonneville Dam and the Hwy 395 Bridge are estimated to have kept 1,660 Chinook and an additional 4,630 Chinook were kept from the Hanford reach fishery. For the first time in 20 years a fishery occurred in the Snake River. This fishery was took place between September 25 and October 15. The Snake River fishery only allowed the retention of adipose fin clipped Chinook. Landing estimates from the Snake River fishery are estimated at less than 500 fish.

Treaty Indian

The subsistence fishery began August 1 and runs through the end of the year. The commercial fishery consisted of weekly fishing periods during August 19 through October 23. Preliminary catch data indicate 114,380 Chinook and 17,000 coho were harvested, including commercial, ceremonial and subsistence catches. Harvest includes fin-clipped and non-fin-clipped Chinook and coho.

Puget Sound Fisheries

Puget Sound marine fisheries of interest to the Pacific Salmon Commission in 2008 were regulated to meet conservation and allocation objectives for Chinook, coho, chum and sockeye salmon stocks, per Tribal-State agreement. For Puget Sound Chinook listed under the ESA, fisheries were managed according to the State and Tribal joint resource management plan, the Puget Sound Chinook Harvest Management Plan. This management plan defines limits to total exploitation rates for natural stocks and was determined by the National Marine Fisheries Service to be consistent with requirements specified under the ESA 4(d) Rule.

Release requirements were applied to many recreational and commercial fisheries for Chinook, coho and chum salmon, the latter to protect ESA-listed Hood Canal and Strait of Juan de Fuca summer chum.

Puget Sound fisheries were constrained by the need to meet management objectives for ESA listed Puget Sound Chinook, including Stillaguamish River Chinook. For the 2008 season, the low status of the Interior Fraser River and Hood Canal coho management units represented the primary coho stocks of concern.

Strait of Juan de Fuca Recreational

Areas 5 and 6 were open to Chinook retention (non-selective) from February 16 through April 10.

Recreational fishing regulations allowed retention of Chinook or coho with no adipose fin beginning July 1 in the Strait of Juan de Fuca (Areas 5 & 6). The Chinook selective fishery began on July 1 and continued through August 9 without a quota. Additional sub-areas were also closed, with the intention of providing protection of local Chinook stocks. The fishery continued through September 30 with Chinook non-retention. A coho mark selective fishery occurred from July 1 to September 15 in Areas 5 and from July 1 to September 30 in Area 6. From September 16 to 31 retention of wild coho was legal in Area 5. Chinook retention was legal in Area 5 from November 1 through November 30, and Area 6 from October 1 through October 30 with a 2 fish daily limit, including not more than one Chinook salmon.

Area 5 recreational catch for the creel survey period of July 1 through September 15 totaled 2,634 Chinook (July 1-August 9) and 6,328 coho. Catch record card estimates for salmon taken at times other than noted above are not yet available.

Strait of Juan de Fuca Net

Preliminary estimates of the 2008 catch in Strait of Juan de Fuca Tribal net fisheries are 4,500 Chinook and 600 coho salmon. The Chinook catches exceeded the preseason expectation of 800 Chinook. The coho catches were less than the preseason expectation of 4,600 coho.

Strait of Juan de Fuca Treaty Troll (Area 4B, 5, and 6C)

The preliminary estimates of the 2008 Strait of Juan de Fuca Treaty troll fishery are 1,664 Chinook and 94 coho. The Tribal catch estimates from this area do not include catches from Area 4B during the May-September PFMC management period, which have been included in the North of Cape Falcon troll summary.

San Juan Islands Net (Area 6, 7 and 7A)

Preliminary estimates of the 2008 catch in San Juan Island net fishery directed at sockeye or chum salmon totaled 29 Chinook and 278 coho salmon for the non-Indian fishery, compared with pre-season expected landings of 1,300 Chinook and 1,300 coho. Tribal fishery landings from this area totaled 55 Chinook and 86 coho compared with pre-season expected landings of 4,700 Chinook and 8,300 coho.

San Juan Islands Recreational

Chinook retention was allowed in the entire area for the period February 1 – April 15 but mark-selective only during the month of February.

The southern and southeastern (Rosario Strait) portions of this catch area were again closed in 2008 to protect migrating, mature Puget Sound Chinook salmon. The remaining area was opened for retention of Chinook and coho salmon from July 1 to October 31. Release of unmarked coho salmon was required for the months of August and September. The month of October was opened for Chinook. Additional sub area closures are described in the Washington State Sport Fishing Rules Pamphlet. Catch estimates for this area are not available at this time.

Inside Puget Sound (Areas 8-13) Recreational

Catch and angler effort estimates are available for mark-selective recreational fisheries directed at hatchery Chinook in Areas 8.1 & 8.2, 9, and 10 during the winter period, and summer period fisheries conducted in Areas 9, 10, 11 and 13. Detailed reports of the conduct of these fisheries, including catch, effort and results of sampling and monitoring programs, are available from the Washington Department of Fish and Wildlife.

Puget Sound Marine Net (Areas 8-13)

To achieve conservation objectives for Puget Sound Chinook and coho, very limited commercial fishing opportunities directed at abundant returns of hatchery Chinook and both hatchery and natural returns of coho were planned for 2008.

Puget Sound Terminal Fisheries

Tribal net and sport fisheries directed at salmon in this region were implemented based upon pre-season, Tribal-State agreements and subject to in-season adjustment. The Puget Sound rivers net harvest (all by Tribal fisheries) includes catch from river systems in the Strait of Juan de Fuca, Hood Canal, and Puget Sound.

Table 42 Preliminary 2008 landed CHINOOK catches for Washington and Oregon fisheries of interest to the Pacific Salmon Commission (nearest 100)

Fisheries	2008 Preseason Total Mortality	2008 Preseason Landed 2/	2008 Preliminary Landed	2007	2006	2005	2004	2003	2002	2001	2000	1999
Ocean Fisheries												
Troll (see text for quota information)												
C Flattery&Quillayute (Areas 3/4/4B) 3/	51,800	44,600	23,300	28,300	41,900	57,500	73,400	72,400	61,400	35,700	16,200	40,500
Columbia. R & Grays Harbor (Areas 1&2)	17,300	12,900	11,800	10,400	15,400	19,600	11,700	19,000	32,300	14,300	1,700	4,400
Sport (see text for quota information)												
Neah Bay (4) 4/	1,700	1,500	1,400	1,500	1,400	2,800	5,500	4,700	5,200	1,500	400	
La Push (Area 3)	800	700	700	600	1,700	1,700	1,800	1,900	2,000	600	200	1,000
Grays Harbor/ Westport (Area 2)	13,900	12,500	8,600	5,200	5,800	22,400	11,300	21,800	42,600	15,700	6,300	6,600
Col. R./Ilwaco (Leadbetter Pt. to Cape Falcon)	5,900	5,300	3,300	2,200	2,300	9,600	6,200	5,800	8,000	5,100	1,500	2,300
Inside Fisheries												
Sport												
Juan de Fuca (Area 5&6) 5/	7,400	4,000	2,600	6,900	5,300	2,400	5,000	5,000	2,900	4,300	1,300	1,400
San Juan Is. (Area 7) 8/	4,500	2,500	Na	5,000	3,300	2,100	2,300	3,300	5,500	6,600	3,400	2,700
Puget Sound (Areas 8-13) 8/	54,300	27,800	Na	38,500	20,900	18,200	19,900	22,500	22,300	33,500	18,900	21,800
Puget Sound Rivers	11,900	11,500	Na	19,800	17,200	12,200	5,800	10,900	13,600	11,800	5,000	8,600
North WA Coastal Rivers	na	na	Na	400	400(1)	400(1)	800(1)	800(1)	800(1)	1,000	700	0
Grays Harbor (Areas 2A-2D)	na	na	Na	700	1,100(1)	400(1)	6,300(1)	1,300(1)	3,600(1)	3,800	2,300	100
Columbia River Sport 6/ - Spring	na	na	21,800	9,700	13,000	13,600	26,700	20,800	23,800	25,800	300	0
Columbia&Trib Sport / - Summer/Fall	na	na	29,400	19,000	23,200	38,100	43,900	52,300	50,700	28,600	17,700	30,500
Commercial												
North WA Coastal Rivers	na	na	3,800	5,500	13,900	16,000	23,000	11,400	14,500	8,000	5,300	8,300
Grays Harbor (Areas 2A-2D) 7/	na	na	1,900	3000	3,700	2,600	3,600	900	1,500	6,100	4,700	2,000
Columbia River Net-Winter/Spr 9/	na	na	26,000	9,800	12,800	11,400	30,700	23,300	47,900	60,100	11,300	2,000
Columbia River Net – Sum/Fall 9/	na	na	123,500	4,200	92,600	121,100	136,000	127,900	131,800	104,600	52,300	84,800
Strait of Juan de Fuca(4B winter ,5/6C) Net&Troll	10,800	9,000	6,181	4,400	1,900	5,500	21,200	1,200	2,800	2,500	800	1,100
San Juan Islands (Areas 6, 7 & 7A)	6,100	5,000	100	12,100	4,400	4,400	5,100	4,800	1,900	1,000	1,000	0

Table 42. Preliminary 2008 landed CHINOOK catches for Washington and Oregon fisheries of interest to the Pacific Salmon Commission.
Footnotes:

1/ Preliminary data. Estimates represent landed catch only and do not include non-retention mortality.
2/ This column shows the 2008 Chinook troll quotas (Non-Treaty troll quota 20,000 and Treaty troll quota of 37,500) as distributed by ocean area; the Recreational Chinook quota 20,000 is also shown as distributed by area specific guidelines.
3/ Includes Area 4B catch during the PFMC management period (May 1 - September 30); Area 4B Treaty troll catch outside PFMC period included under Strait De Fuca Net and Troll. .
4/ Includes Area 4B catch
5/ 2008 catches represens July 1 through September 15 in Area 5 only, since CRC annual estimates are not yet available. Data after March of 2003 are still preliminary.
6/ Mainstem only (mouth upstream to Hwy 395 Bridge for spring and mouth upstream to Priest Rapids Dam for summer and fall).
7/ Includes catch from the upper Chehalis (River+2A+2D) and Humptulips (River+2C). .
8/ Data after March of 2003 are still preliminary.
9/ Mainstem retained catch only

Table 43 Preliminary 2008 landed COHO catches for Washington and Oregon fisheries of interest to the Pacific Salmon Commission

Fisheries	2008 Preseason Total Mortality	2008 Pre-season Landed 2/	2008 Preliminary Landed	2007	2006	2005	2004	2003	2002	2001	2000	1999
Ocean Fisheries												
Troll												
Cape Flattery & Quillayute (Areas 3/4) 3/	22,600	20,300	14,200	40,100	32,500	24,100	62,700	11,800	17,900	58,800	21,800	33,800
Columbia R & Grays Harbor (Area 2)	6,300	3,800	2,300	17,300	1,800	1,700	7,900	4,700	200	7,400	5,900	700
Sport												
Neah Bay (Area 4) 3/	7,700	6,100	2,200	10,600	5,800	10,200	29,400	19,700	8,400	17,900	11,600	5,400
LaPush (Area 3)	800	600	500	2,800	1,900	2,300	3,200	3,400	1,700	3,300	1,900	2,600
Grays Harbor (Area 2)	9,600	7,500	7,500	23,000	8,800	10,500	29,300	39,300	19,100	69,400	28,800	12,600
Col. R. (Leadbetter Pt. to Cape Falcon)	12,200	10,200 7/	10,800	65,800	24,900	28,700	51,000	76,700	45,000	77,500	25,800	19,600
Inside Fisheries												
Sport												
Juan de Fuca (Areas 5 & 6) 4/	28,600	12,900ok	6,300	44,000	12,600	30,700	47,300	50,800	33,700	71,000	32,600	8,700
San Juan Islands (7) 6/	2,400	2,100	na	600	100	1,000	1,500	2,000	3,300	4,900	2,600	500
Puget Sound Sport (Areas 8-13) 6/	32,700	27,200	na	32,800	17,000	30,400	39,300	48,000	29,500	117,600	39,700	12,800
Puget Sound Rivers 6/	24,800	23,600	na	31,700	13,500	32,000	34,200	47,500	35,500	66,800	20,000	11,500
North WA Coastal Rivers	3,700	3,500	na	580(1)	700(1)	1,500(1)	1,600(1)	1,100(1)	1,500(1)	2,000	900	0
Grays Harbor (Areas 2A-2D)	4,900	4,700	na	700(1)	1,400(1)	3,300(1)	10,400(1)	12,600(1)	15,400(1)	21,700	6,900	900
Columbia River Buoy 10	4,700	4,000	6,100	8,400	3,700	6,900	15,200	54,400	6,200	132,000	21,500	9,000
Commercial												
North WA Coastal Rivers	31,700	31,100	24,700	26,900	30,800	98,400	54,100	57,300	80,100	73,300	30,100	45,500
Grays Harbor (Areas 2A-2D) 5/	20,800	20,400	15,600	11,800	9,600	29,200	24,400	16,500	21,900	14,200	16,700	14,600
Strait of Juan de Fuca (Areas 4B winter, 5/6C) Net&Troll	4,600	4,500	718	5,800	2,700	8,100	8,100	2,800	6,900	5,300	2,500	1,400
San Juan islands (Areas 6, 7 & 7A)	9,600	8,800	400	5,900	800	22,900	22,900	9,000	3,700	700	1,600	0

Table 43. Preliminary 2008 landed COHO catches for Washington and Oregon fisheries of interest to the Pacific Salmon Commission.

Footnotes:

1/ Preliminary data. Estimates represent landed catch only and do not include non-retention mortality. 2/ This column shows the 2008 coho troll quotas (Non-Treaty troll marked coho quota 3,000 (after in-season reduction) and Treaty troll quota of 20,000) as distributed by ocean area. Recreational marked coho quotas are as shown.

3/ Excludes Area 4B catch outside the PFMC management period (Oct 1 - Apr 30).

4/ 2008 catch represents selective fisheries July 1 through September 15 in Area 5 only, since CRC annual estimates are not yet available. Data after March 2003 are preliminary.

5/ Includes catch from the upper Chehalis and Humptulips Rivers.

6/ Data after March 2003 are preliminary.

7/ Quota adjusted to 11,380 in-season

Preliminary Review of 2008 Washington Chum Fisheries of Interest to the Pacific Salmon Commission

This summary report provides a preliminary review of the 2008 chum fishing season and is subject to correction and revision as additional information becomes available. Washington chum fisheries, in a number of areas, particularly in Washington Areas 7 and 7A, are still underway and some fish ticket data from recent weeks may not be in the catch reporting system at this time. The harvest and abundance information provided are based on preliminary data reported through November 15. This summary report is limited to only those fisheries of concern, under the Annex IV, Chapter 6 of the Pacific Salmon Treaty. This includes mixed-stock fisheries in United States (U.S.) waters of the western Strait of Juan de Fuca (Areas 4B, 5 and 6C), the San Juan Islands (Area 7) and the Point Roberts area (Area 7A). Other chum fisheries in Washington waters are primarily terminal area fisheries targeting local stocks.

Mixed Stock Fisheries

Areas 4B, 5, 6C

As in previous years, the chum fishery in Areas 4B, 5 and 6C was restricted to Treaty Indian fishers using gill nets. The fall chum fishery opened the week of October 5, with a schedule of five days per week. At the end of the first week, the fishery schedule expanded to seven days per week in order to provide further opportunity to the few participants and concluded on November 8.

Incidental catches of chum salmon, prior to the chum directed fishing season, were very limited in 2008, mostly because of the limited effort and open periods, during the passage of summer chum and the early portion of the fall run which overlaps the coho season. Only 266 summer chum, including those caught in test fisheries, were recorded through September 15. During the subsequent fishery, directed at coho salmon, an additional 384 chum salmon were caught. During the fall chum fishery, 4,207 chum were harvested from October 5, to the end of the season, resulting in an annual catch total, for this fishery, of 4,857 (Table 44).

Areas 7 and 7A

Chum fisheries in Areas 7 and 7A were regulated in compliance with the provisions of Chapter 6 of Annex IV of the Pacific Salmon Treaty. More specifically, this chapter calls for a flat exploitation rate limit on chum fisheries in Johnstone Strait, and specifies a fixed harvest ceiling in U.S. Areas 7 and 7A, unless a critically low level of abundance is identified for the runs returning through Johnstone Strait. The base harvest ceiling for the Areas 7 and 7A fishery, in 2008 was 130,000 chum plus 46,000 chum from an accumulated historical difference, plus 15,000 chum from a 2007 shortfall, below the base catch level, for a total target catch of 191,000 chum. Canada did not provide a preseason forecast, nor an in-season estimate of the total Inside chum abundance, but indicated inseason, on the basis of Inside area test catches and fisheries, that the Inside area run size was not at a critical level. Chapter 6 of the Annex also specifies that chum fisheries in Areas 7 and 7A may not be initiated prior to October 10 and that, if the Fraser River chum run is updated inseason to levels lower than 900,000 fish, the U.S. would take actions to limit fishery impacts on Fraser chum. The initial in-season Fraser chum run size estimate exceeded 2 million, so this provision was not applicable to the 2008 management actions.

Non-Treaty reef net fisheries targeting marked coho salmon were conducted from the end of Fraser Panel control until October 9 and remained open, targeting chum salmon from October 10 through November 15. Chum salmon by-catch in this fishery, between October 1 and October 10, was 466 fish.

The Treaty Indian gillnet and purse seine fishery opened after the start of the fall chum management period, on October 11, and remained open until November 15. The Non-Treaty fleet opened for one day of combined gillnet and purse seine fishing on October 10.

For the week beginning October 12, the Non-Treaty fishing opened for a combined gillnet and purse seine fishery on October 15 and remained open until November 15.

Catches per vessel were low in the first weeks of the fishery, dropping off quickly in the latter part of the period. Effort remained relatively low throughout the fishery primarily because of the availability of alternate fishing opportunities in other Puget Sound areas, as well as because of intervening periods of inclement weather. In the last three weeks of the fishery, there was very little catch and effort. Chum prices have improved over the past several years, but this fishery did not reach its base catch ceiling in 2008.

There were no summer chum reported caught in Areas 7 and 7A prior to September 16. The total chum catch by all gears in Areas 6, 7, and 7A, reported through November 15, was 73,036. Catch distribution, between Areas 7 and 7A, was 68.5% and 31.5% respectively. However, it should be noted that these catch reports are likely incomplete (Table 45).

During the fall chum fisheries in Areas 7 and 7A, there was a reported bycatch of 219 coho salmon and 2 steelhead. The reported steelhead bycatch during the chum fishery in Areas 4B, 5, 6C was 52 steelhead.

Chum and coho tissue samples were collected for genetic analysis from this fishery in 2008.

Puget Sound Terminal Area Fisheries and Run Strength

Preseason forecasts for chum returns to Puget Sound were for a moderate fall chum run totaling approximately 1.85 million fish. Current in-season estimates indicate that the returns to Hood Canal and Stillaguamish - Snohomish may be approximately as forecast and those to Skagit and South Puget Sound below forecast. Some Puget Sound chum fisheries are still underway and additional in-season estimates of abundance may occur. At this time, spawning escapements are underway and therefore estimates are not available.

Table 44. Preliminary 2008 Chum Harvest Report for Washington Catch Reporting Areas 4b, 5, 6c

Areas 4B, 5, 6C	
Treaty Indian, GN only	
Time Periods	GN
Through 9/15	266
9/16 – 10/4	384
10/5 – 10/11	197
10/12 – 10/18	442
10/19 – 10/25	2,344
10/26 – 11/1	1,014
11/2 – 11/8	210
11/9 – 11/15	0
Total	4,857

Table 45. Preliminary 2008 Chum Harvest Report for Washington Catch Reporting Areas 6, 7, 7a

	Area 6	Area 7				Area 7A			Area 6, 7, 7A
Time Periods	GN	PS	GN	RN	Area total	PS	GN	Area total	Total
Through 9/15	0	0	0	0	0	0	0	0	0
9/16 – 10/4	0	0	0	30	30	0	0	0	30
10/5 – 10/11	0	2,746	315	436	3,497	2,886	125	3,011	6,508
10/12 – 10/18	129	13,223	792	0	14,015	2,130	4,209	6,339	20,483
10/19 – 10/25	93	27,441	2,359	0	29,800	3,988	7,526	11,514	41,407
10/26 – 11/1	0	1,786	592	0	2,378	0	1,429	1,429	3,807
11/2 – 11/8	0	0	158	0	158	0	643	643	801
11/9 – 11/15	0	0	0	0	0	0	0	0	0
Total	222	45,196	4,216	466	49,878	9,004	13,932	22,936	73,036
10/10 – 11/15 Period Bycatch	Coho: 219; Steelhead: 2								

Preliminary Review of 2008 United States Fraser River Sockeye Salmon Fisheries

Introduction

The 2008 Fraser River Panel season was the tenth implemented under the renewed Annex IV of the Pacific Salmon Treaty (PST). The treaty establishes a bilateral (U.S. and Canada) Fraser River Panel (Panel) that develops a pre-season management plan and approves in-season fisheries within Panel Area waters directed at sockeye and pink salmon bound for the Fraser River (Figure 38). In partial fulfillment of Article IV, paragraph 1 of the PST, this document provides a season review of the 2008 U.S. Fraser River salmon fisheries as authorized by the Panel. Catch and abundance information presented is considered preliminary.

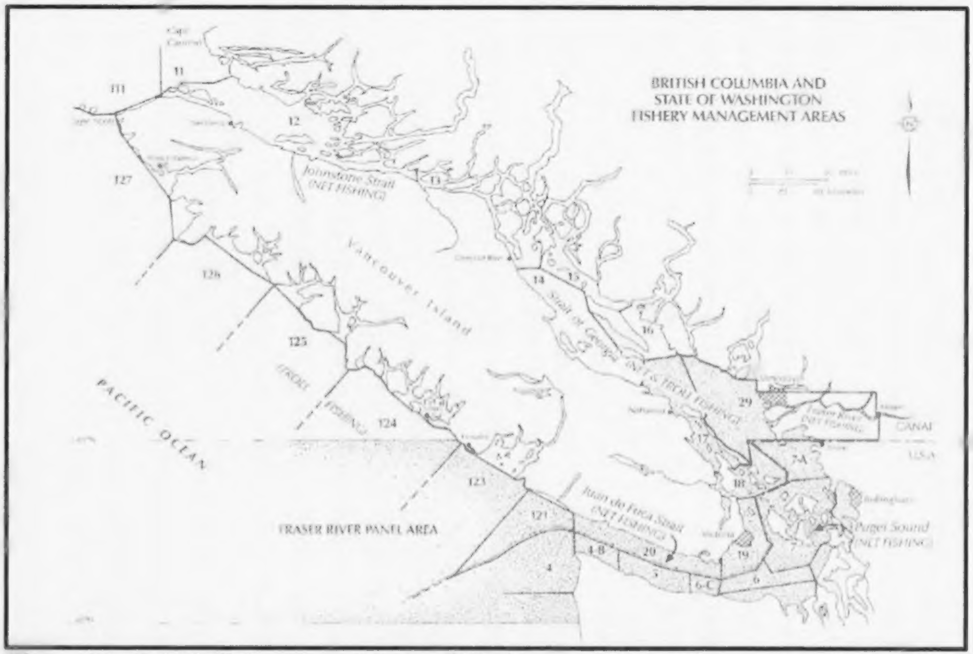

BRITISH COLUMBIA AND
STATE OF WASHINGTON
FISHERY MANAGEMENT AREAS
Cape Caution
11
111
12
127
Johnstone Strait
(NET FISHING)
13
126
Vancouver Island
125
124
123
121
14
15
16
Strait of Georgia (NET & TROLL FISHING)
29
Fraser River
(NET FISHING)
17
18
7A
PACIFIC OCEAN
(TROLL FISHING)
FRASER RIVER PANEL AREA
Juan de Fuca Strait
(NET FISHING)
4
4-B
20
5
6-C
6
19
7
Puget Sound
(NET FISHING)
CANAI
U.S.A.

Figure 38. British Columbia and State of Washington Fishery Management Areas, 2008. The shaded area in the map represents the marine waters managed by the Fraser River Panel.

Pre-season Expectations and Plans

Forecasts and Escapement Goals

The Department of Fisheries and Oceans, Canada (DFO) provided the Panel pre-season run size forecasts and escapement goals by stock group (run) at various probability levels. Table 46 shows the 2008 pre-season sockeye forecasts at the 50 percent probability level, which represents the mid-point of the range of possible run sizes. These are the forecasts agreed upon by the Panel for use in pre-season fishery planning. Table 46 also provides the escapement goals for timing groups based on the pre-season forecasted abundance. The escapement goals for all timing groups can change in-season as the run size estimates change.

Table 46. 2008 Pre-season Fraser River sockeye Forecasts and Escapement Goals, by Stock Group.

	Early Stuart	Early Summer	Summer	Late	Total
Forecast of Abundance	35,000	349,000	1,810,000	705,000	2,899,000
Escapement Goal	35,000	145,000	724,000	431,000	1,335,700

Diversion

Diversion is defined as the percentage of Fraser sockeye salmon migrating through Johnstone Strait (rather than the Strait of Juan de Fuca) in their approach to the Fraser River. Diversion through Johnstone Strait was forecasted pre-season to be 29% for sockeye. Diversion was modeled on a daily basis starting at 0% (100% migration through the Strait of Juan de Fuca) in late June and climbing to 40% in steady increments by early August.

Management Adjustment (MA) and Environmental Conditions

Management Adjustments reflect the expected difference between escapement estimates at Mission (minus catch above Mission) and actual spawning escapements. If the adjustments are adopted by the Panel, they are added to the gross escapement goal, effectively increasing the goal for an impacted run. For 2008, the Management Adjustment was modeled using discharge and temperature predictor variables and relationships between differences between estimates and run timing. Table 47 provides the preseason projected MA's that were used for planning fisheries. In-season management adjustments use MA models that are based on both measured and forecasted temperatures and discharges, and inseason estimates of run timing. A management adjustment was not used for the Late runs. Due to conservation concerns for some of the Late Run stocks the management approach was to keep impacts limited to a fishery exploitation rate of no more than 20%.

Table 47. 2008 Pre-Season Management Adjustments

Early Stuart		Early Summer		Summer	
Difference Between Estimates	**Management Adjustment**	**Difference Between Estimates**	**Management Adjustment**	**Difference Between Estimates**	**Management Adjustment**
45%	31,000	20%	36,000	0%	0

Run Timing

Run timing is temporal information about the presence of a salmon stock in a specific area during the time the stock is migrating through that area. Run timing is an important variable when planning fisheries and predicting run size inseason. The following Area 20 50% dates (the dates when 50% of the stock or run group is forecasted to have passed through Area 20) were predicted pre-season for the major Fraser sockeye run groups. These run timing predictions were earlier than normal for all timing groups.

Table 48. 2008 Area 20 Pre-Season 50% Run Timing Dates

Run Group	Area 20 50% Run Timing Date
Early Stuart	June 30
Early Summers	July 22
Summers	July 30
Birkenhead	August 6
True Lates	August 7

U.S. Total Allowable Catch (TAC)

Pre-season, the U.S. TAC was established at 175,000 sockeye, but only about 153,000 were expected to be taken by the U.S. fisheries due to constraints on available harvest of Early Summer and Late run components, which substantially overlap in timing with the more abundant Summer runs.

Pre-Season Management Plans

During the preseason planning process the Fraser Panel evaluates and adopts management approaches for Fraser sockeye salmon that address conservation, and harvest objectives for each major stock group. The Fraser River Panel develops fishing plans and in-season decision rules with the objective to meet management goals. Managing Fraser River sockeye involves a trade-off between catching abundant stocks and meeting escapement objectives for less abundant stock groups.

In 2008 the Panel adopted a management plan that recognized that fishing opportunities would be constrained by Early Summer runs at the beginning of the season and Late-Run stocks later in the season. There was no TAC predicted to be available for Early Stuart sockeye in 2008, and commercial fisheries were not contemplated on this timing group.

The early entry behavior of Late Run sockeye, observed in recent years, which results in an apparent high loss of fish prior to reaching the spawning grounds, was expected to continue in 2008. A management approach was adopted preseason to allow for a Late Run fishery exploitation rate of only 20%.

The Panel developed a preseason fishing plan that balanced the competing objectives of maximizing the Summer run catch (which made up a large portion of the TAC, and had the highest allowable exploitation rate) and meeting the gross escapement goals for Early Summer runs and Late-Runs. For the major U.S. fisheries this meant that sockeye openings would likely be constrained to the last week of July and the first week of August, and an approximate preseason fishing schedule was developed for that window of opportunity. The total number of days of fishing in U.S. waters was expected to be relatively small given the predicted low diversion rate.

In-Season Management

In-season, the Pacific Salmon Commission staff analyzes a variety of information to produce best estimates of diversion, management adjustments, run-timing, abundance, and harvest by stock group. These estimates are created using stock ID information, test fishing data, counts of escapements past Mission, harvest data and environmental information.

Run Assessment

The final inseason abundance estimates for 2008 (Table 49) indicate that the Early Stuart and the Early Summer runs returned somewhat larger than expected preseason, while the Summer and Late run timing groups, which were expected to provide the bulk of the harvest, returned much lower than predicted.

These very poor returns relative to expectations for the Summer and Late run components are indicative of poor marine survival. These low returns provided very limited opportunities for commercial harvest.

Preseason, run timing was expected to be quite early for all timing groups and in-season timing proved to be even earlier than expected. In some cases, return timing was the earliest ever observed on this cycle.

Table 49. Comparison of pre-season vs. in-season abundance estimates for Fraser River Sockeye Salmon by Stock Group (run).

Stock Group	PreSeason 50% Probability Forecast	InSeason Run Size Estimate	Comparison: InSeason vs. 1. Pre-Season Forecast
Early Stuart	35,000	40,000	114%
Early Summer	349,000	450,000	114%
Summer	1,810,000	980,000	54%
Late	705,000	245,000	35%
Total	2,899,000	1,715,000	59%

Season Description

Week ending July 26

At the beginning of the week the Early Stuart run appeared to have cleared the fishing areas and the Early Summer runs appeared to be returning earlier and larger than expected preseason. Relatively low impact U.S. treaty Indian fisheries commenced in areas 4B/5/6C on July 19, two days earlier than provided for in the preseason fishing plan. As the week progressed the runs still appeared to be returning earlier than expected and the Early Summer run size was formally updated by the Panel to 500,000 from the preseason forecast of 394,000 sockeye. The diversion rate was also very low, estimated throughout the week at between 5 and 10%. At the end of the week a Non-Treaty commercial fishery for purse seine and gillnet gear was opened in areas 7/7A. The opening of fisheries in areas 7/7A was 3 days earlier than expected in the preseason fishing plan.

Week ending August 2

Treaty Indian fisheries in areas 4B/5/6C were open continuously until 6:00 PM on August 1st. Treaty Indian fisheries were opened in areas 6/7/7A on July 28th and ran nearly continuously through July 31st. Non-Treaty reef nets fished areas 7/7A on July 27th, and all Non-Treaty gear was open in areas 7/7A from July 29th through July 31st. Catches were generally very good in areas 4B/5/6C but much less than expected in areas 6/7/7A, largely due to a very heavy plankton bloom that fouled net gear, preventing effective fishing. As the week progressed it became apparent that the previous week's abundance estimate for the Early Summer runs was too high and the Panel lowered the run size estimate to 425,000 sockeye. Similar concerns were emerging for the Summer runs and the Panel adopted the 75p forecast of 1.18 million for management purposes. By the end of the week, more concerns emerged for the abundance of the Summer and Late runs and these run sizes were further reduced by the Panel to 800,000 for the Summer runs and 369,000 for the Late runs. With these run size estimates there was no U.S. allowable catch share remaining, and no U.S fisheries were scheduled after August 1st.

Harvest

Between July 19 and August 1 the United States caught a total of 49,700 Fraser River sockeye in Panel area waters (Table 50)[4]. During this period the Treaty Indian fisheries in Areas 4B/5/6C were open for a total of 14 days and in Areas 6/7/7A for 5 days. The Non-Indian fishery in Areas 7/7A was open for a total of 4 days for reef net, gillnet and purse seine gear. The number of days fished was similar to what was planned preseason, but the overall catches were much less than expected due to much smaller run sizes for the Summer and Late Run components, and a very large plankton bloom that affected gear efficiency in areas 7/7A.

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[4] Catch data reported by PSC staff as of 9/22/08.

Table 50. Preliminary estimates of 2008 U.S. catches of Fraser River sockeye salmon in Panel area waters.

	Treaty Indian	Non-Indian
C and S	1,400	0
Catch Areas 4B/5/6C	32,400	0
Catch Areas 6/7/7A	6,800	9,100
Total	40,600	9,100

D. 2008 UPDATE REPORTS FOR SALMONID ENHANCEMENT PROGRAMS IN THE UNITED STATES AND CANADA

The Pacific Salmon Treaty between Canada and the United States requires that information be exchanged annually regarding operation of and plans for existing enhancement projects, plans for new projects, and views concerning the other country's enhancement projects. In 1988, a committee was formed to develop recommendations for the pre- and post-season and enhancement report formats. In summary, the committee proposed that:

- detailed reports on existing enhancement facilities of the type produced in 1987 be prepared every four years;
- the Parties will annually update information on eggs taken, fry or smolt released and adults back to the facility; significant changes in facility mission or production will be highlighted in narratives; and
- the Parties will provide periodic reports through the appropriate panels on new enhancement plans.

1. 2004 ANNUAL REPORT ON THE SALMON ENHANCEMENT ACTIVITIES OF THE UNITED STATES

This report had not been received by March 31, 2009.

2. 2005 ANNUAL REPORT ON THE SALMONID ENHANCEMENT ACTIVITIES OF THE UNITED STATES

This report had not been received by March 31, 2009.

3. 2006 ANNUAL REPORT ON THE SALMONID ENHANCEMENT ACTIVITIES OF THE UNITED STATES

This report had not been received by March 31, 2009.

4. 2007 ANNUAL REPORT OF THE SALMONID ENHANCEMENT ACTIVITIES OF THE UNITED STATES

This report had not been received by March 31, 2009.

5. 2008 ANNUAL REPORT OF THE SALMONID ENHANCEMENT ACTIVITIES OF THE UNITED STATES

This report had not been received by March 31, 2009.

5. 2006 REPORT ON THE SALMONID ENHANCEMENT PROGRAM IN BRITISH COLUMBIA

This report had not been received by March 31, 2009.

6. 2007 REPORT ON THE SALMONID ENHANCEMENT PROGRAM IN BRITISH COLUMBIA

This report had not been received by March 31, 2009.

7. 2008 REPORT ON THE SALMONID ENHANCEMENT PROGRAM IN BRITISH COLUMBIA

This report had not been received by March 31, 2009.

Reports of the Joint Technical Committees

PART V
REPORTS OF THE JOINT TECHNICAL COMMITTEES

Executive summaries of reports submitted to the Commission by the joint technical committees during the period April 1, 2006 to March 31, 2007 are presented in this section. Copies of the complete reports are available from the library of the Pacific Salmon Commission.

A. JOINT CHINOOK TECHNICAL COMMITTEE

2008 ANNUAL REPORT OF CATCHES AND ESCAPEMENTS, EXPLOITATION RATE ANALYSIS AND MODEL CALIBRATION
TCCHINOOK (08)-2 – December 2008.

The June 30, 1999, Pacific Salmon Treaty (PST) Annexes and Related Agreements (Agreement) substantially changed the objectives and structure of the Pacific Salmon Commission's (PSC) Chinook salmon fisheries and assessment of Chinook salmon stocks. The Agreement replaced the previous ceiling and pass-through fisheries with Aggregate Abundance Based Management (AABM) and Individual Stock Based Management (ISBM) fisheries. It also assigned the Chinook Technical Committee (CTC) with a number of tasks related to implementation of the Agreement (Appendix to Annex IV, Chapter 3).
This report summarizes the 2007 fishery catches by region, available estimates of incidental mortality by fishery and limited commentary on fishery catches where needed. Landed catch is reported in the appendices for each geographic area covered under the PST. An assessment of escapement for stocks with CTC accepted goals is included, and escapement data thru 2007 are provided for all escapement indicator stocks. This report also contains the principal results of the annual exploitation rate assessment of CWT data through 2006 and the final preseason Chinook model calibration for 2008 (CLB 0805). Results include the Abundance Indices (AIs) for the AABM fisheries and ISBM indices for each party (country).

AABM Abundance Indices and Associated Catches

The pre- and postseason AIs for the three AABM fisheries, Southeast Alaska All Gear (SEAK), Northern British Columbia Troll and Queen Charlotte Islands Sport (NBC), and West Coast Vancouver Island Troll and Outside Sport (WCVI) are presented in Table 1. The Agreement specifies that the AABM fisheries are to be managed through the use of the AIs. Each calibration provides the first postseason AIs for the previous year and the preseason AIs for the current year. Preseason AIs are used to set total allowable catch limits in the upcoming fishing season. Subsequently, postseason AIs (from the following year's calibration) are used to track catch overage and underage provisions. The first 2007 postseason AIs and the 2008 preseason AIs have now been finalized.

Table 1. Abundance Indices for 1999 to 2008 for the SEAK, NBC, and WCVI AABM fisheries.

Year	SEAK Preseason	SEAK Postseason	NBC Preseason	NBC Postseason	WCVI Preseason	WCVI Postseason
1999	1.15	1.12	1.12	0.97	0.60	0.50
2000	1.14	1.10	1.00	0.95	0.54	0.47
2001	1.14	1.29	1.02	1.22	0.66	0.68
2002	1.74	1.82	1.45	1.63	0.95	0.92
2003	1.79	2.17	1.48	1.90	0.85	1.10
2004	1.88	2.06	1.67	1.83	0.90	0.98
2005	2.05	1.90	1.69	1.65	0.88	0.84
2006	1.69	1.73	1.53	1.50	0.75	0.68
2007	1.60	1.34	1.35	1.10	0.67	0.57
2008	1.07		0.96		0.76	

In general, the AIs for 1999 through 2001 are low compared to AIs in the late 1980s and early 1990s but values increased substantially starting in 2002. The 2008 projected AI values have declined when compared to the high values for 2004 through 2007. The Agreement specifies an allowable catch for each AI for each fishery. The maximum allowable Treaty catch (total catch minus any hatchery add-on and exclusion catch) by fishery and year and the actual (observed) catches are shown in Table 2.

Table 2. Observed catches and postseason allowable catches for 1999 to 2007, and preseason allowable catches for 1999 to 2008, for AABM fisheries.

PST Treaty Allowable and Observed Catches									
	SEAK (T, N, S)[1]			NBC (T, S)			WCVI (T, S)		
Year	Pre-season Allowable Catch	Post-season Allowable Catch	Observed Catch	Pre-season Allowable Catch	Post-season Allowable Catch	Observed Catch	Pre-season Allowable Catch	Post-season Allowable Catch	Observed Catch
1999	192,800	184,200	198,842	145,600	126,100	86,726	128,300	107,000	36,413
2000	189,900	178,500	186,493	130,000	123,500	31,900	115,500	86,200	101,438
2001	189,900	250,300	186,919	132,600	158,900	43,500	141,200	145,500	117,670
2002	356,500	371,900	357,133	192,700	237,800	150,137	203,200	196,800	165,036
2003	366,100	439,600	379,519	197,100	277,200	191,657	181,800	268,900	175,821
2004	383,500	418,300	417,019 421,666[2]	243,600	267,000	241,508	192,500	209,600	216,624
2005	416,400	387,400	390,482	246,600	240,700	243,606	188,200	179,700	202,662
2006	346,800	354,500	357,678	223,200	200,000	215,985	160,400	145,500	146,883
2007	329,400	259,200	327,138	178,000	143,000	144,235	143,300	121,900	139,150
2008	170,000			124,800			162,600		

[1] Nomenclature is T for troll, N for net, and S for sport.

[2] The lower value resulted from subtracting a disputed terminal exclusion catch for the Stikine River in 2004. Catch accounting has since been defined in the Transboundary Agreement.

Table 3 shows the differences between the postseason allowable catches and the observed catches in AABM fisheries for 1999–2007, and the cumulative differential for those years. All three AABM fisheries have cumulative underages. In SEAK, observed catches have been below final allowable catches for three of the nine years; the cumulative differential is –1.5% or -1.3%. In NBC, observed catches have been below the final allowable catches in seven of the nine years; the cumulative differential is –24.0%. In WCVI, observed catches have been below allowable catches in four of the nine years; the cumulative differential is –10.9%.

Table 3. Deviations in numbers of Chinook salmon and percentages from catch targets derived from the first postseason AI (Table 2) for Pacific Salmon Treaty AABM fisheries in 1999 to 2007.

	SEAK		NBC		WCVI	
Year	Number of Fish	Percent Difference	Number of Fish	Percent Difference	Number of Fish	Percent Difference
1999	+14,642	+7.9%	-39,374	-31.2%	-70,587	-66.0%
2000	+7,993	+4.5%	-91,600	-74.2%	+15,238	+17.7%
2001	-63,381	-25.3%	-115,400	-72.6%	-27,830	-19.1%
2002	-14,767	-4.0%	-87,663	-36.9%	-31,764	-16.1%
2003	-60,081	-13.7%	-85,543	-30.9%	-93,079	-34.6%
2004	-1,281 +3,366	-0.3% +0.8%	-25,492	-9.5%	+7,024	+3.4%
2005	+3,082	+0.8%	+2,906	+1.2%	+22,962	+12.8%
2006	+3,178	+0.9%	+15,985	+8.0%	+1,383	+1.0%
2007	+67,938	+26.2%	+1,235	+0.9%	+17,250	+14.2%
Cum.	-42,678 -38,031[1]	-1.5% -1.3%[1]	-424,946	-24.0%	-159,403	-10.9%

[1] The lower value resulted from subtracting a disputed terminal exclusion catch for the Stikine River in 2004. Catch accounting has since been defined in the Transboundary Agreement.

ISBM Indices

For ISBM fisheries, the Agreement specified that Canada and the United States would reduce base period exploitation rates on specified stocks by 36.5% and 40%, equivalent to ISBM indices of 63.5% and 60% percent, respectively. This requirement is contained in Chapter 3 section 4(d) of the treaty and is referred to as the 'general obligation' and does not apply to stock groups that achieve their CTC agreed escapement goals. Estimated ISBM fishery indices are shown in Table 4 for Canadian fisheries and Table 5 for United States (U.S.) fisheries. Both tables present CWT-based indices for 2006, and Chinook model-based indices for 2008. The agreement specifies that the ISBM indices be forecasted preseason and evaluated postseason for each escapement indicator stock listed in Attachments I to V of the Chinook Chapter.

CWT-based Indices in 2006

All of the six Canadian ISBM indices from the Coded Wire Tag (CWT)-based estimates for 2006 show that exploitation rates were reduced more than required for all stocks or stock groups for which the indices could be calculated. Four of the 16 U.S. ISBM indices for the CWT based estimates for 2006 were reduced more than required. Of the 10 U.S. CWT-based ISBM indices that exceeded 0.60, ten (Upriver Brights, Quillayute, Queets, Hoh, Lewis, Mid-Columbia Summers, Nehalem, Siletz, Siuslaw and Cowichan) have agreed escapement goals and all but the Cowichan stock exceeded their goals in 2006.

Table 4. Canadian 2006 ISBM indices based on CWT and the 2008 indices predicted from the PSC Chinook Model.

		Canadian ISBM Indices	
Stock Group	**Escapement Indicator Stock**	**CWT Indices for 2006**	**Model Indices for 2008**
Lower Strait of Georgia	Cowichan	0.191 [4]	0.315 [6]
	Nanaimo	NA [1,5]	
Fraser Late	Harrison River [2]	0.032 [7]	0.208
North Puget Sound Natural Springs	Nooksack Skagit	NA	0.470
Upper Strait of Georgia	Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish	0.079	0.622
Fraser Early (spring and summers)	Upper Fraser, Mid Fraser, Thompson	NA	0.128
West Coast Vancouver Island Falls	WCVI (Artlish, Burman, Kauok, Tahsis, Tashish, Marble)	0.267 [9]	0.149[9]
Puget Sound Natural Summer / Falls	Skagit	NA	0.724
	Stillaguamish	0.074	0.796
	Snohomish	NA	0.721
	Lake Washington[8]	NA	0.722
	Green River	0.109	0.721
North / Central B. C.	Yakoun, Nass, Skeena, Area 8	NA	0.593
Washington Coastal Fall Naturals [3]	Hoko, Grays Harbor, Queets [2], Hoh [2], Quillayute [2]	NA	NA
Columbia River Falls [3]	Upriver Brights [2]	NA	NA
	Deschutes	NA	NA
	Lewis [2]	NA	NA
Columbia R Summers [3]	Mid-Columbia Summers [2]	NA	NA
Far North Migrating OR Coastal Falls [3]	Nehalem [2], Siletz [2], Siuslaw [2]	NA	NA

[1] Not available (NA) because of insufficient data (lack of stock specific tag codes, base period CWT recoveries, etc).

[2] Stock or stock group with a CTC agreed escapement goal.

[3] Stock groups listed in Annex 4, Chapter 3, Attachment V.

[4] An inconsistency was discovered between the approaches used to calculate the model-based and CWT-based indices. The former included harvest rates for terminal sport while the latter did not. Terminal sport harvest rates are now included in the calculation of both indices. Further review is yet required to determine whether the base period terminal sport harvest rates obtained from analyses of Big Qualicum CWT recoveries adequately represent impacts that would have occurred on Cowichan Chinook.

[5] Several problems have been identified in the approach previously used to calculate the CWT-based indices for Nanaimo Chinook. Until these problems are resolved, indices for this stock will not be reported.

[6] Although model-based indices were previously calculated separately for Cowichan and Nanaimo, these did not adequately represent impacts on either LGS stock because the model-based data represent an aggregate of the two stocks and methods do not currently exist to correctly disaggregate these data for calculation of the ISBM values. Until such methods are developed, a single index value only will be reported representing the aggregate.

[7] The terminal sport harvest rates for Chilliwack Hatchery Chinook, the indicator stock, were removed from the calculation for the Harrison River naturals because sport harvest has been essentially zero on the natural population.

[8] For Canadian ISBM fisheries, the same distribution and Index value are used for Lake Washington and Green R.

[9] ISBM indices for WCVI naturals are based on information from Robertson Cr. hatchery stock, including terminal harvest rates. Prior to this report, harvest rates for terminal net and sport fisheries were treated as equal between the naturals and the hatchery indicator. However, this ignored the fact that since 1999, there has been no terminal net harvest of the vast majority of natural stocks on the WCVI. Consequently, indices for WCVI naturals were adjusted to reflect this zero terminal net harvest rate. In addition, some inconsistencies were noted in the treatment of terminal harvest rates between the model and CWT indices for this stock group. These inconsistencies were eliminated.

Predicted ISBM Indices for 2008

Five of the 19 ISBM indices for Canada, based on outputs from calibration 0807, are predicted to exceed the allowable value of 0.635 for Canadian ISBM fisheries in 2008 (Table 4). None of the Puget Sound Natural Summer/Fall stocks (Skagit, Stillaguamish, Snohomish, Lake Washington and Green River) have CTC agreed escapement goals. Eight of the 22 U.S. ISBM indices based on calibration 0807 are predicted to be above the allowable limit of 0.60 for U.S. ISBM fisheries in 2008 (Table 5). All eight have CTC agreed escapement goals: Queets, Hoh, Quillayute, Upriver Brights, Mid-Columbia Summers, Nehalem, Siletz, and Siuslaw.

Table 5.U.S. 2006 ISBM indices based on CWT and the 2008 indices predicted from the PSC Chinook Model.

		U.S. ISBM Indices	
Stock Group	**Escapement Indicator Stock**	**CWT Indices for 2006**	**Model Indices for 2008**
Washington Coastal Fall Naturals	Hoko	NA	0.305
	Grays Harbor	0.520	0.450
	Queets [2]	0.600	1.007
	Hoh [2]	1.290	1.457
	Quillayute [2]	1.180	0.851
Columbia River Falls	Upriver Brights [2]	3.080	0.701
	Deschutes	0.580	0.428
	Lewis [2]	1.330	0.436
Puget Sound Natural Summer / Falls	Skagit	NA	0.321
	Stillaguamish	0.080	0.137
	Snohomish	NA	0.165
	Lake Washington	NA	0.392
	Green R	0.370	0.380
Fraser Late	Harrison River [2]	0.160	0.378
Columbia R Summers	Mid-Columbia Summers [2]	0.480	1.254
Far North Migrating OR Coastal Falls	Nehalem [2]	3.480	1.968
	Siletz [2]	2.340	1.592
	Siuslaw [2]	2.230	0.971
North Puget Sound Natural Springs	Nooksack	NA	NA
	Skagit	NA	NA
Lower Strait of Georgia [3]	Cowichan,	15.070	0.333
	Nanaimo	15.070	0.333
Upper Strait of Georgia [3]	Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish	NA	NC [2]
Fraser Early (spring and summers) [3]	Upper Fraser, Mid Fraser, Thompson	NA	0.100
West Coast Vancouver Island Falls [3]	WCVI (Artlish, Burman, Kaouk, Tahsis, Tashish, Marble)	NA	0.365
North / Central B. C. [3]	Yakoun, Nass, Skeena, Area 8	NA	NC

[1] Not available (NA) because of insufficient data (lack of stock specific tag codes, base period CWT recoveries, etc).

[2] Stock with a CTC agreed escapement goal.

[3] Stock groups listed in Annex 4, Chapter 3, Attachment IV.

[4] NC means that the current model assumes the stock is not caught in U.S. ISBM fisheries.

ESCAPEMENTS THROUGH 2007

The escapements of 50 naturally spawning escapement indicator stocks/stock aggregates are reviewed annually. Biologically-based escapement goals have been accepted by the CTC for 24 of the 50 escapement indicator stocks/stock aggregates. For 12 of these, the agency escapement goal is defined as a range; for the remaining 12, the escapement goal is the point estimate of S_{MSY} (escapement producing maximum sustained yield). In 2007, escapements were within the goal range for seven stocks, above the range or S_{MSY} point estimate for four stocks, and below the goal for thirteen stocks. Data for stocks without accepted goals are presented to illustrate trends in escapement. The CTC will continue to review escapement goals, as they are provided to the committee.

B. JOINT CHUM TECHNICAL COMMITTEE

2006 POST SEASON SUMMARY REPORT
TCCHUM (08)-1 – July 2008.

This Pacific Salmon Commission (PSC) Joint Chum Salmon Technical Committee report presents the appropriate information on chum salmon stocks and fisheries in southern British Columbia and Washington for the year 2006 to address the specific provisions and requirements of the 2006 version of Chapter 6, Annex IV of the Pacific Salmon Treaty (PST).

The treaty between the governments of Canada and the United States of America (U.S.) concerning Pacific salmon was designed to facilitate co-operation between the two countries in the management, research and enhancement of Pacific salmon stocks. Chapter 6 of Annex IV (Chum Annex) of the PST required that certain fisheries for chum salmon in southern British Columbia (B.C.) and Washington be managed in a specified manner. In each country other fisheries, while not specifically mentioned in the PST, are known to harvest chum salmon originating in the other country. This report presents various aspects of the chum found in Washington State and in B.C. waters between Vancouver Island and the mainland and off the west coast of Vancouver Island, and discusses the management actions of Canada and the U.S. in relation to the PST requirements.

In 1999 a new Chum Annex was negotiated and adopted by the parties for a term of 10 years. Certain provisions of this Annex were updated, relative to earlier versions, to be consistent with the changes in the "Clockwork" management strategy implemented by Canada for fisheries in Johnstone Strait. It also included additional conservation provisions to address concerns of the United States for Hood Canal-Strait of Juan de Fuca summer chum salmon, which have been listed as a "threatened" species under the United States' Endangered Species Act.

In 2002, Canada implemented a significant change in Southern B.C. chum management replacing the "Clockwork" stepped exploitation rates in favor of a fixed fishing schedule designed to approximate a total harvest rate of 20%. The Parties managed their fisheries through 2006 within the spirit of the existing Annex and the Commission's guidance.

In 2004, the Parties were given additional Commission guidance that modified certain provisions of the Chum Annex. The purpose of the guidance document was to provide Commission direction to the Southern Panel on the conduct of southern chum salmon fisheries for the years 2004 to 2008. This direction was not intended to replace Annex IV, Chapter 6 of the Pacific Salmon Treaty but to address a change in Canadian management, which suspended development of pre-season run size estimates of chum to Canadian waters. The guidance document outlined agreements on fishery modifications. One modification disconnected the harvest levels in the U.S. from catch volume in Canada. The U.S. fishery in Areas 7 and 7A was managed pursuant to the Commission guidance to the Southern Panel on the management of southern chum fisheries. Another modification further provided for an additional linkage of the U.S. fishery, in Area 7 and 7A, to the abundance of chum salmon returning to the Fraser River. Additionally, the guidance document provided for conditional exploitation rates for Canadian fisheries based on specific levels of abundance.

In 2006, a new agreement was concluded between the Government of Canada and the Government of the United States of America which amends Annex IV of the PST (1985). These Parties managed their fisheries in accordance with this agreement.

C. JOINT COHO TECHNICAL COMMITTEE

No reports were finalized for publication during this reporting period.

D. JOINT NORTHERN BOUNDARY TECHNICAL COMMITTEE

U.S./CANADA NORTHERN BOUNDARY AREA 2007 SALMON FISHERIES MANAGEMENT REPORT AND 2008 PRELIMINARY EXECTATIONS

TCNB (08)-1 – April 2008

This report reviews:

1) catch, effort, and management actions in the 2007 Northern Boundary Area troll and net fisheries of southern Southeast Alaska Districts 101 to 108 and northern British Columbia Areas 1, 3, 4, and 5;

2) management performance relative to Treaty requirements for pink salmon;

3) preliminary expectations and fishing plans for 2008.

Historical catch and effort data by district or area, gear, species, and week are no longer reported annually in this report. They can be referenced in *Pacific Salmon Commission, Northern Boundary Technical Committee Report, U.S. / Canada Northern Boundary Area 1999 Salmon Fisheries Management Report and 2000 Preliminary Expectations*. Report TCNB (01)-1, January 2001. If these historical numbers are modified, they will be added as an appendix in a future annual report.

2007 Fisheries

The southern Southeast Alaska pink salmon harvest was 31.7 million, well above the recent 10-year average of 24.8 million. The 2007 pink salmon harvest for all of Southeast Alaska and Yakutat was 44.9 million, very close to the preseason forecast of 47 million pink salmon (the 80% C.I. forecast range was 36–58 million). Formal forecasts are not made for sub-regions, or for species other than pink salmon in Southeast Alaska.

The southern Southeast Alaska pink salmon escapement index of 11.1 million pink salmon exceeded the escapement goal of 4.0–9.0 million index spawners. Escapement indices for southern Southeast Alaska were within or exceeded management targets for all districts and for 16 of the 17 southern Southeast Alaska pink salmon stock groups.

In the North Coast of British Columbia the aggregate sockeye returns to the Skeena River exceeded the escapement target, allowing for 7 commercial sockeye-directed gillnet openings. In addition, limited pink directed seine fisheries were permitted in Area 4 to harvest available surplus pinks. Meanwhile, the Nass aggregate sockeye return was well below average and half of the pre-season projected return, with a Total Return to Canada (TRTC) estimate of approximately 390,000 sockeye. The cumulative Area 3 marine commercial sockeye catch was 248,644. An above average return of pink salmon allowed for a harvestable surplus seine catch of 3 million pinks. The estimated net escapement of

164,748 Nass sockeye was below the 200,000 target. The Meziadin River escapement of 104,308 was below both the decadal average (183,000) and escapement target (160,000) to the most productive sockeye system in the Nass drainage.

Due to an extraordinarily large snow pack and later than average freshet, the Babine Fence Counting Facility was not fully operational until August 7. As a result, a large portion of the Babine sockeye return was not counted (notably the Early Babine and Pinkut components) with approximately 469,000 sockeye being enumerated between August 7 and the end of the return (September 29). To estimate the actual Skeena sockeye escapement, the proportion of Babine sockeye passing the Tyee Test fishery was applied to the estimated Babine Lake Development Project escapement. Meanwhile, returns of non-enhanced Babine stocks were variable. Returns to the Morice and Kitwanga systems were below desired levels, with estimated escapements of 10,000 and 240, respectively.

Pink returns to all areas of the North Coast were average to above average. The Areas 3 and 4 net fleet pink delivered 3.1 million and 635,192 pinks, respectively. Pink escapements were at or above target to most assessment streams in Areas 3, 4 and 5, with a cumulative escapement estimate of greater than 1.3 million. Low chum abundance in Areas 3 to 5 resulted in below target escapements to most streams. Management actions were in place to minimize chum mortality throughout the Areas 3 and 5 net fishing seasons. The Area 1 troll fishery harvested 61,276 pinks, with low catches attributed to low effort.

E. JOINT TRANSBOUNDARY TECHNICAL COMMITTEE

STOCK COMPOSITIONS OF SOCKEYE SALMON CATCHES IN SOUTHEAST ALASKA DISTRICT 106 AND 108 GILLNET FISHERIES, 1991-1995, ESTIMATED WITH SCALE PATTERN ANALYSIS.

TCTR (08)-1. – April 2008

Sockeye salmon *Oncorhynchus nerka* are harvested in marine net fisheries throughout Southeast Alaska and northern British Columbia. Drift gillnet fisheries in Alaskan commercial fishing Districts 106 and 108 harvest sockeye salmon of Alaskan origin but also catch sockeye salmon of transboundary Stikine River and of Canadian Nass and Skeena River origin. Interception of salmon originating in one country as the fish migrate through the territorial waters of the other country has become a research and management concern since the implementation of the U.S./Canada Pacific Salmon Treaty. Cooperative international management of Stikine River sockeye salmon is mandated by this treaty under Annex IV, Chapter 1. Knowledge and control of stock-specific harvests are therefore needed to fulfill requirements of, and assess compliance with, the harvest sharing guidelines outlined in the treaty. Additional complexity was added to the harvest share agreements with the commencement of a joint U.S./Canada sockeye salmon enhancement program in 1990. In this program, gametes are collected by Canada from Tahltan Lake spawners, shipped to the Port Snettisham hatchery in the U.S. where the eggs are fertilized, incubated, and hatched and the resulting fry are planted back into Tahltan or Tuya Lakes.

ESTIMATES OF TRANSBOUNDARY RIVER SALMON PRODUCTION, HARVEST AND ESCAPEMENT AND A REVIEW OF JOINT ENHANCEMENT ACTIVITIES IN 2005.

TCTR (08)-2. – November 2008

Estimates of harvests and escapements of Pacific salmon returning to the transboundary Stikine, Taku, and Alsek Rivers for 2005 are presented and compared with historical patterns. Average, unless stated differently, refers to the 1995-2004 average. Relevant information pertaining to the management of appropriate U.S. and Canadian fisheries is presented and the use of inseason management models is discussed. Preliminary results from transboundary river sockeye salmon *Oncorhynchus nerka* enhancement projects are also reviewed.

Stikine River

The 2005 Stikine River sockeye salmon run is estimated at 260,000 fish, of which approximately 180,000 fish were harvested in various fisheries including test fisheries. An estimated 76,000 Stikine River fish escaped to spawn, including 1,600 fish which migrated to the Tuya River block and were not harvested. The run and harvest were above average. The Tahltan Lake sockeye salmon weir count of 43,000 fish was above the upper bound of the goal range (18,000 to 30,000 fish). The estimated U.S. commercial catch of Stikine River sockeye salmon in Districts 106 and 108, including the Stikine River subsistence fishery, was 92,000 fish. The Canadian inriver commercial and aboriginal fishery catches were 80,000 and 5,000, fish, respectively. The inriver test fishery harvested 1,600 sockeye salmon and there was no marine test fishery in 2005. The Stikine Management Model (SMM) predicted a run substantially less than the preseason forecast of 478,000 fish throughout the course of the fishery. Weekly inseason model projections ranged from 174,000 to 275,000 sockeye salmon; the final inseason model prediction was 274,000 fish, with a total allowable catch (TAC) of 218,000 fish. Based on the postseason run size estimates and TAC calculations of 100,000 Stikine River fish for each country, Canada harvested 84% and the U.S. harvested 92% of their respective TACs. Broodstock collection and otolith sampling removed 3,400 and 400 sockeye salmon respectively from the escapement to Tahltan Lake leaving a spawning escapement of 39,600 fish. The estimated spawning escapement of 35,000 mainstem Stikine River sockeye salmon was within the goal range of 20,000 to 40,000 fish for this stock group. The total sockeye salmon run calculated from mark–recapture study was 268,000 sockeye salmon, close to the final SMM estimate of 275,000 fish.

The 2005 Stikine River Chinook salmon (non jack salmon) run is estimated at 90,000 fish, of which approximately 48,000 fish were harvested in various fisheries including test fisheries. An estimated 42,000 Stikine River fish escaped to spawn, above the 2005 escapement goal of 21,000 large Chinook salmon. The run and harvest were above average. The Little Tahltan River Chinook salmon escapement of 7,300 fish was above both the 2005 escapement goal of 4,000 fish and the upper bound of the goal range (2,700 to 5,300 fish). The estimated U.S. commercial catch of Stikine River Chinook salmon in Districts 106 and 108 gillnet, troll, subsistence, and sport fisheries was 29,000 fish. The Canadian commercial, aboriginal, and sport fisheries catches totaled were 19,000. The inriver test fishery harvested <50 large and jack Chinook salmon. There was no marine test fishery in 2005. The Stikine Chinook salmon Management Model (SCMM) was persistent throughout the course of the fishery in predicting a total run size close to that of the preseason forecast. Weekly inseason run projections from the model ranged from 71,000 to 78,000 Chinook salmon. The weekly mark-recapture estimates ranged from 80,700 to 84,500 fish. The final inseason model prediction was 77,000 to 78,000 fish with a total allowable catch (TAC) of

56,000 fish. Based on the mark-recapture preliminary postseason terminal run size estimate (79,600) and TAC calculations of 21,500 Stikine River fish for the Canada and 35,200 for the U.S., Canada harvested 85% and the U.S. harvested 86% of their respective TACs.

The 2005 run size of Stikine River coho salmon cannot be quantified. The U.S. marine harvest of Stikine River coho salmon *O. kisutch* is also unknown since there is no stock identification program for this species. Mixed stock coho salmon harvest in Districts 106 and 108 were 114,000 and 42,000 fish, respectively. Alaskan hatchery fish comprised approximately 27% and 21% of the coho salmon harvest from the two districts. The Canadian inriver coho salmon catch of 276 fish was below average. The aerial survey count of 3,200 fish from six index sites combined was below the 1995-2004 average. The lower Stikine coho salmon test fishery cumulative CPUE, however, was above average.

Taku River

The postseason estimate of the 2005 Taku River sockeye salmon run is 189,000 fish, including an estimated catch of 69,000 fish and an above-border spawning escapement of 120,000 sockeye salmon. The run size was above the 1995-2004 average and the escapement was above the goal range of 71,000 to 80,000 fish. An estimated 45,000 Taku River sockeye salmon were harvested in the District 111 commercial fishery, below the 1995-2004 average, and an estimated 1,000 sockeye salmon were harvested in the U.S. inriver personal use fishery. Canadian inriver commercial and aboriginal fishery harvest included 22,000 and 200 sockeye salmon, respectively, compared to the 1995-2004 average inriver harvest of 30,000 fish. The U.S. harvested an estimated 41% of the TAC and Canada harvested an estimated 19% of the TAC.

The harvest of large Chinook salmon in the Canadian commercial fishery in the Taku River was 7,400 fish, compared to the 1995-2004 average of 2,600 fish. The Canadian aboriginal fishery in the Taku River harvested 200 large Chinook salmon. District 111 mixed stock gillnet fishery harvest of 22,000 Chinook salmon compared to the 1995-2004 average of 4,000. Approximately 4% of the harvest was estimated to be of Alaska hatchery origin. The above-border mark–recapture estimate for Chinook salmon is 47,000 fish.

The estimated above border run of Taku River coho salmon in 2005 is 100,000 fish, which is average for 1995-2004. The Canadian inriver commercial harvest included 5,000 coho salmon, compared to an average of 6,000 (1995-2004). After upriver Canadian harvest and test fishery catches are subtracted from the inriver run, the above-border-spawning escapement is estimated at 92,000 coho salmon, which exceeds the minimum escapement goal of 38,000 fish. The U.S. harvest of 20,000 coho salmon in the District 111 mixed stock fishery was below the 1995-2004 average of 45,000 fish. Alaskan hatcheries contributed an estimated 2% of the District 111 harvest, or 500 fish.

The harvest of 182,000 pink salmon *O. gorbuscha* in District 111 was above the 1995-2004 average of 85,000 fish. Pink salmon were not retained in the Canadian commercial inriver fishery in 2005. The escapement of pink salmon to the Taku River was likely above average as evidenced by the fish wheel catch and release of 15,840 fish that is 32% above average.

The catch of chum salmon *O. keta* in the District 111 fishery was 93,000 fish; composed of 90,000 summer run fish (prior to mid-August) and 3,500 fall run fish. The harvest of summer chum salmon, primarily Alaskan hatchery stocks, was below the 1995-2004 average of 300,000 fish. The harvest of fall chum salmon, composed of wild Taku River and Port Snettisham stocks, was close to the average of 4,000 fish. As with pink salmon, there was non-retention of chum salmon in the Canadian inriver fishery and the reported catch was 0 fish in 2005. Although spawning escapement is not known the Canyon Island fish wheel catch of 256 chum salmon was 14% below average.

Alsek River

The Alsek River sockeye salmon harvest of 7,500 fish in the U.S. commercial fishery was below the 1995-2004 average of 20,000 fish. The Canadian inriver harvest of 600 fish was below the 1995-2004 average of 1,500 fish. The Klukshu River weir count of 3,400 sockeye salmon was the lowest on record and below the goal range of 7,500 to 15,000 fish. The count of 1,000 early run sockeye salmon (count through August 15) was below the 1995-2004 average of 3,100 fish. The late run count of 2,400 fish was below the average of 12,000 fish for the same period. The mark–recapture program was not run in 2005.

The Chinook salmon run to the Alsek River appeared to be below average. The U.S. Dry Bay catch of 240 large Chinook salmon was below the average of 650 fish. The combined Canadian sport and aboriginal fishery catch of 110 Chinook salmon was below the average of 520 fish. The 1,100 Chinook salmon counted through the Klukshu River weir was below the 1995-2004 average of 2,600 fish and the lowest on record. Of the total count, 960 Chinook salmon were estimated to have spawned, below the goal range of 1,100 to 2,300 Chinook salmon. The mark-recapture program was not run in 2005.

Current stock assessment programs prevent an accurate comparison of the Alsek River coho salmon run with historical runs. The U.S. Dry Bay catch of 1,200 coho salmon was below the average of 6,200 fish, while the combined Canadian inriver aboriginal and sport fishery catch of 70 fish was below the average of 160 fish. The operation of the Klukshu weir does not provide a complete enumeration of coho salmon into this system since it is removed before the run is over; however, it does provide an annual index. The count of 700 coho salmon was below the average of 3,200 fish.

Enhancement

Eggs and milt were collected from the year 2005 sockeye salmon escapements at Tahltan and Tatsamenie Lakes. A total of 4.5 million eggs were collected at Tahltan Lake. At Tatsamenie Lake, 1.9 million eggs were collected for the hatchery.

Outplants of 2004 brood-year sockeye salmon fry in May and June 2005 included, 1.2 million fry into Tahltan Lake, 3.2 million fry into Tuya Lake, and .6 million fry into Tatsamenie Lake. Green-egg to planted-fry survivals were 62%, 86%, and 84% for the Tahltan, Tuya and Tatsamenie outplants, respectively. Survival to emergence was above average.

The egg incubation and thermal-marking program was continued at Snettisham Hatchery in 2005. Snettisham hatchery is operated by DIPAC (Douglas Island Pink and Chum, Inc.), a private aquaculture organization in Juneau. A co-operative agreement between ADF&G and DIPAC provides for Snettisham hatchery to serve the needs of the joint TBR enhancement projects.

Adult sockeye salmon otoliths were processed inseason by the ADF&G otolith lab to estimate the weekly contribution of fish from US/Canada TBR fry planting programs to the District 106, 108, and 111 gillnet fisheries and to Canadian commercial fisheries in the Stikine and Taku Rivers. Preliminary contribution estimates of planted fish to Alaskan harvest were 36,000 planted Stikine River fish to District 106 and 108, and 650 planted Taku River fish to District 111. Estimates of contributions to Canadian fisheries included 31,000 planted fish to Stikine River fisheries and 260 planted fish to the Taku River fisheries.

ESTIMATES OF TRANSBOUNDARY RIVER SALMON PRODUCTION, HARVEST AND ESCAPEMENT AND A REVIEW OF JOINT ENHANCEMENT ACTIVITIES IN 2006.

TCTR (08)-3. – November 2008.

Estimates of harvests and escapements of Pacific salmon returning to the transboundary Stikine, Taku, and Alsek Rivers for 2006 are presented and compared with historical patterns. Average, unless stated differently, refers to the 1996-2005 average. Relevant information pertaining to the management of appropriate U.S. and Canadian fisheries is presented and the use of inseason management models is discussed. Results from transboundary river sockeye salmon *Oncorhynchus nerka* enhancement projects are also reviewed.

Stikine River

The 2006 Stikine River sockeye run is estimated at 269,000 fish, of which approximately 177,000 fish were harvested in various fisheries including test fisheries. An estimated 91,000 Stikine River fish escaped to spawn, including 10,000 fish that migrated to the Tuya River block and were not harvested. The run and harvest were above average. The Tahltan Lake sockeye escapement of 54,000 fish was above the upper bound of the goal range (18,000 to 30,000 fish). The estimated U.S. commercial catch of Stikine River sockeye salmon in Districts 106 and 108, including the Stikine River subsistence fishery, was 75,000 fish. The Canadian inriver commercial and aboriginal fishery catches were 96,000 and 5,000, fish, respectively. The inriver test fishery harvested 900 sockeye salmon and there was no marine test fishery in 2006. The Stikine Management Model (SMM) predicted a run substantially more than the preseason forecast throughout the course of the fishery. Weekly inseason model projections ranged from 236,000 to 325,000 sockeye salmon; the final inseason model prediction was 298,000 fish, with a total allowable catch (TAC) of 250,000 fish. Based on the postseason run size estimates and TAC calculations of 104,000 Stikine River fish for each country, Canada harvested 97% and the U.S. harvested 72% of their respective TACs. Broodstock collection and otolith sampling removed 3,400 and 400 sockeye salmon respectively from the escapement to Tahltan Lake leaving a spawning escapement of 50,000 fish. The estimated spawning escapement of 28,000 mainstem Stikine River sockeye salmon was within the goal range of 20,000 to 40,000 fish for this stock group.

The 2006 Stikine River Chinook *O. tshawtsha* run is estimated at 67,000 large fish, of which approximately 43,000 fish were harvested in various fisheries. An estimated 24,000 Stikine River fish escaped to spawn, above the 2005 escapement goal of 21,000 large Chinook salmon. The run and harvest were also above the averages. The Little Tahltan River Chinook escapement of 4,000 fish was at the 2005 escapement goal of 4,000 fish and within the upper bound of the goal range (2,700 to 5,300 fish). The estimated U.S. commercial catch of Stikine River Chinook salmon in Districts 106 and 108 gillnet, troll, subsistence, and sport fisheries was 27,000 fish. The Canadian commercial, aboriginal, and sport fisheries catches totaled 16,000 fish. There were no inriver or marine test fisheries for Chinook salmon in 2006. The Stikine Chinook Management Model (SCMM) was persistent throughout the course of the fishery in predicting a total run size larger than the preseason forecast of 61,000 fish. Weekly inseason run projections from the model ranged from 65,000 to 74,000 Chinook salmon. The weekly mark-recapture estimates ranged from 80,700 to 84,500 fish. The final inseason model prediction was 74,000 fish (both U.S. and Canada), with an AC of 51,600 fish. Managers used both the mark-recapture and model estimates to generate inseason estimates after week 24. Based on the postseason mark-recapture terminal run size estimate of 66,000 and AC calculations of 19,700 Stikine River fish for the Canada and 30,000 large Chinook salmon for the U.S., Canada harvested 80% and the U.S. harvested 94% of their respective ACs.

The 2006 run size of Stikine River coho salmon cannot be quantified. The U.S. marine harvest of Stikine River coho salmon *O. kisutch* is also unknown since there is no stock identification program for this species. Mixed stock coho harvest in Districts 106 and 108 were 69,000 and 34,000 fish, respectively. Alaskan hatchery fish comprised approximately 32% of the coho harvest from the two districts. The Canadian inriver coho catch of 100 fish was below average. The aerial survey count of 2,000 fish from six index sites combined was below average.

Taku River

The postseason estimate of the 2006 Taku River sockeye run is 233,000 fish, including an estimated catch of 87,000 fish and an above-border spawning escapement of 146,000 sockeye salmon. The run size was below average while the escapement was above average and above the goal range of 71,000 to 80,000 fish. An estimated 65,000 Taku River sockeye salmon were harvested in the District 111 commercial fishery, below the average of 110,000 fish, and an estimated 800 sockeye salmon were harvested in the U.S. inriver personal use fishery. Canadian inriver commercial and aboriginal fishery harvests included 21,000 and 100 sockeye salmon, respectively, and were below average. The U.S. harvested an estimated 42% of the TAC and Canada harvested an estimated 13% of the TAC.

The harvest of large Chinook salmon in the Canadian commercial fishery in the Taku River was 7,400 fish, above average and the second year with a directed Chinook fishery. The Canadian aboriginal fishery in the Taku River harvested 200 large Chinook salmon. District 111 mixed stock drift gillnet fishery harvest of 11,000 Chinook salmon was above average and also the second year of a directed Chinook fishery. Approximately 5% of the harvest was estimated to be of Alaska hatchery origin. The above border spawning escapement estimated from the mark-recapture program is 42,000 fish.

The estimated above border run of Taku River coho salmon in 2006 is 134,000 fish, which is above average. The Canadian inriver commercial harvest included 9,000 coho salmon, twice the average. After upriver Canadian harvest and test fishery catches are subtracted from the inriver run, the above-border spawning escapement is estimated at 122,000 coho salmon, which exceeds the minimum escapement goal of 38,000 fish. The U.S. harvest of 60,000 coho salmon in the District 111 mixed stock fishery was more than twice the average. Alaskan hatcheries contributed an estimated 3% of the District 111 harvest, or 2,000 fish.

The harvest of 185,000 pink salmon *O. gorbuscha* in District 111 was nearly twice the average. A total of 400 pink salmon were retained in the Canadian commercial inriver fishery in 2006. The Taku River pink escapementwas likely above average as evidenced by the fish wheel catch and release of 22,000 fish which is 60% above average.

The catch of chum salmon *O. keta* in the District 111 fishery was 382,000 fish; composed of 374,000 summer run fish (prior to mid-August) and 8,000 fall run fish. The summer chum harvest, primarily Alaskan hatchery stocks, was the third highest on record. The fall chum harvest, composed of wild Taku River and Port Snettisham stocks, was above average. There was non-retention of chum salmon in the Canadian inriver fishery and the reported catch was 0 fish in 2006. Although spawning escapement is not known the Canyon Island fish wheel catch of 466 chum salmon was above average.

Alsek River

The Alsek River sockeye harvest of 10,000 fish in the U.S. commercial fishery was below average. The Canadian inriver harvest of 1,300 sockeye salmon was average. The Klukshu River weir count of 13,500 sockeye salmon was average and within the goal range of 7,500 to 15,000 fish. The count of 250 early run sockeye salmon (count through August 15) was the third lowest on record, however the overall migration was late and some of the early run may have been ascribed to the late run. The late run count of 13,000 fish was above average.

The Chinook run to the Alsek River appeared to be below average. The U.S. Dry Bay catch of 500 large Chinook salmon was below average. The combined Canadian sport and aboriginal fishery catch of 17 Chinook salmon was below the average of 500 fish and the lowest on record. The 570 Chinook salmon counted through the Klukshu River weir was the lowest on record and the spawning escapement was below the goal range of 1,100 to 2,300 Chinook salmon.

Current stock assessment programs prevent an accurate comparison of the Alsek River coho run with historical runs. The U.S. Dry Bay catch of 700 coho salmon was below average, no catches were recorded for the Canadian inriver aboriginal and recreational fishery. The operation of the Klukshu weir does not provide a complete enumeration of coho salmon into this system since it is removed before the run is over; however, it does provide an annual index. The count of 400 coho salmon was below the average.

Enhancement

Eggs and milt were collected from the year 2006 sockeye escapements at Tahltan and Tatsamenie Lakes. A total of 4.4 million eggs were collected at Tahltan Lake. At Tatsamenie Lake, 4.8 million eggs were collected for the hatchery.

Outplants of 2005 brood year sockeye fry in May and June 2006 included, 1.3 million fry into Tahltan Lake, 2.1 million fry into Tuya Lake, and 1.5 million fry into Tatsamenie Lake. Green-egg to planted-fry survivals were 71%, 78%, and 81% for the Tahltan, Tuya and Tatsamenie outplants, respectively. Survival to emergence was about average.

The egg incubation and thermal marking program was continued at Snettisham Hatchery in 2006. Snettisham hatchery is operated by DIPAC (Douglas Island Pink and Chum, Inc.), a private aquaculture organization in Juneau. A co-operative agreement between ADF&G and DIPAC provides for Snettisham hatchery to serve the needs of the joint TBR enhancement projects.

Adult sockeye otoliths were processed inseason by the ADF&G otolith lab to estimate the weekly contribution of fish from US/Canada fry-planting programs to the District 106, 108, and 111 drift gillnet fisheries and to Canadian commercial fisheries in the Stikine and Taku Rivers. Contribution estimates of planted fish to Alaskan harvest were 31,000 Tahltan and 10,000 Tuya fish to District 106 and 108 combined, and 2,200 Tatsamenie fish to District 111. Estimates of contributions to Canadian fisheries included 42,000 Tahltan and 18,000 Tuya fish to Stikine River fisheries and 800 fish to the Taku River fisheries.

TRANSBOUNDARY PANEL STRATEGIC SALMON PLAN
TCTR (09)-1. – March 2009.

The *Transboundary Panel Strategic Salmon Plan* was developed by the Transboundary Panel of the Pacific Salmon Commission to provide strategic guidance for addressing priority information needs/data gaps related to salmon stock assessment, enhancement, or habitat restoration in the transboundary Alsek, Taku and Stikine Rivers. The Panel identified development of this strategic plan as an important Northern Fund activity in 2008 and obtained support from the fund for its development.[5]

The bilateral Transboundary Panel is chartered to provide information and make recommendations on Annex IV, Chapter 1 of the Pacific Salmon Treaty (PST) for stocks of salmon originating in the Alsek, Taku, and Stikine Rivers.[6] The Transboundary Technical Committee (TTC) assists the Panel.

Plan Purpose

The *Transboundary Panel Strategic Salmon Plan* identifies projects, programs or actions that are important to meeting the obligations of Transboundary Rivers Agreement (Annex IV, Chapter 1) for the period 2009-2018,[7] or that would conserve salmon and benefit salmon management on the transboundary rivers. The Transboundary Panel will use the plan to:

- Identify the Panel's view of programs or actions useful to meet its objectives for salmon conservation, harvest and enhancement; and
- Develop the Panel's yearly recommendations to the Northern Fund Committee.

The Transboundary Panel is hopeful that the plan will also be considered by the Alaska Department of Fish and Game (ADF&G), the Department of Fisheries and Oceans, Canada (DFO) and others in the allocation of resources to meet priority needs relevant to transboundary salmon stocks.

The plan includes:

- Goals and objectives relevant to salmon stock assessment, habitat restoration, and enhancement on the Alsek, Taku and Stikine Rivers.
- For each goal/objective, a list of on-going programs and new information needs/actions that should be addressed to accomplish these goals/objectives, and a brief summary of the points of the Panel's discussion relevant to the information needs/actions.
- Identification of the appropriate timing to address new information needs/actions, described as short- (1-2 years), mid- (3-5 years) or long-term (6-10 years).
- Guidance on plan implementation and updates.

Goals

The goals of the plan are:

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[5] Northern Fund Project NF-2008-I-27.

[6] The Transboundary Panel was established in Attachment A of the June 30, 1999 Pacific Salmon Treaty Agreement and authorized by Congress on December 15, 2000.

[7] Pacific Salmon Treaty, Annex IV, Chapter 1, Transboundary Rivers, 2009-2018.

Goal 1: SALMON MANAGEMENT – Maintain and improve the information base to support coordinated or cooperative management of the fisheries on transboundary stocks to implement the Bilateral Transboundary Rivers Agreement for 2009-2018.

Goal 2: SALMON ENHANCEMENT – Without compromising wild stocks, enhance salmon production where appropriate opportunities exist to generate returns that will contribute to fisheries and/or stock rebuilding.

Goal 3: SALMON HABITAT – Maintain, restore and/or enhance salmon habitat for the long-term productivity of transboundary salmon stocks.

These goals will be accomplished through the cooperative and coordinated efforts of the agencies and other entities that have the authority, obligation and/or expertise to conserve and manage transboundary river salmon, in the context of the Transboundary Rivers Agreement. This plan supports coordination with stakeholders and users of the resources, including the collection and application of traditional ecological knowledge in cooperation with the First Nations.

Plan Development and Updates

The Transboundary Panel developed the *Strategic Salmon Plan* with the assistance of the TTC. Panel and TTC members individually responded to a survey to initially identify information needs/actions in each of the three goal areas. The Panel and TTC then met in Vancouver, British Columbia, on January 14 and 16, 2009, and in Portland, Oregon, on February 12, 2009, to provide bilateral direction on the content of the final plan.

The Panel intends that the plan will be a dynamic document that will be reevaluated and updated every three years to respond to changing conditions and priorities.

F. JOINT TECHNICAL COMMITTEE ON DATA SHARING

No reports were finalized for publication during this reporting period.

G. JOINT SELECTIVE FISHERY EVALUATION COMMITTEE

REVIEW OF 2007 MASS MARKING AND MARK SELELCTIVE FISHERY PROPOSALS.

SFEC (08)-1. – September 2008.

The coast wide coded wire tag (CWT) system is the only means currently available to obtain data necessary to estimate and monitor coast wide exploitation rates on individual stocks of coho and Chinook salmon, as required for implementation of fishing regimes established by the Pacific Salmon Commission (PSC). The PSC established the Selective Fishery Evaluation Committee (SFEC) to assess impacts of mass marking (MM) and mark-selective fishing (MSF) on the viability of the CWT system. Throughout this report, a marked fish refers to an adipose fin clipped fish and a double index tag (DIT) group includes two CWT groups, one marked (adipose fin clipped) and one unmarked.

This report (a) summarizes the results of the SFEC's review process of 2007 proposals for MM and MSF provided to the PSC between October and December

2006, (b) clarifies the oversight function of the SFEC, and (c) presents recommendations for addressing several unresolved issues and concerns.

Review of Mass Marking Proposals

Marking Programs

Twenty proposals (10 coho and 10 Chinook) were received for mass marking activities in 2007. The SFEC believes these proposals cover all but one MM program with international PSC implications.

Approximately 38 million coho are proposed to be mass marked coast wide in 2007. This represents no significant change in marking level from 2006 and 2005. Essentially all hatchery coho production intended for harvest, from Southern BC and Southern US hatcheries, is now being mass marked.

Approximately 87 million Chinook are proposed to be mass marked from southern US hatcheries. This is an increase of 17.8 million (25.7%), over actual 2006 marking levels. This is also an increase of 26.4 million (43.6%) from the 2005 proposals (60.6 million proposed). Most of the increase is due to additional marking of fall Chinook from the Washington Coast and the Columbia River, a result of implementing the new federal legislation that requires mass marking of all fish from federally funded facilities. Many of these are far-north migrating stocks. The SFEC is aware that approximately 13.5 million additional Columbia River fall Chinook are available for potential mass marking by WDFW and ODFW in 2008, pending funding. The SFEC was also made aware that an additional group of approximately 4.5 million fall Chinook from the Columbian Basin will likely be marked and released but were not included in a proposal.

Sampling Programs

Assuming recent exploitation rates and sampling programs, the SFEC estimates the proposed mass marking of southern US Chinook stocks in 2007 will result in annual encounters of untagged marked Chinook in sampling programs of approximately 10,000 untagged and marked Chinook in Alaska and 21,000 untagged marked Chinook in Canadian sampling programs. Approximately 1,500 untagged and marked coho are projected to be encountered in Alaska and 42,000 untagged marked coho in Canadian sampling programs. Neither agency conducts sampling programs which will recover the unclipped component of Double Index Tagging (DIT) programs required to assess impacts of MSFs. Lack of Electronic Tag Detection (ETD) in AK and some BC fisheries results in inefficient recovery of CWTs (due to extra effort required to process marked and untagged fish). This may result in either lower recovery (sampling) rates or higher costs to maintain current recovery rates.

At current MM levels of Chinook and coho, only Washington (WA) is adequately sampling and reporting CWT recoveries of unmarked DIT releases. Representatives of WA agencies have completed initial analyses of estimated impacts for coho MSFs, based on marked and unmarked recoveries of DIT releases. Valuable insight was obtained concerning possible levels of bias and uncertainty in estimated impacts. However, the ability to expand the coho analysis and to conduct analyses of Chinook DIT recoveries and MSF impacts depends on complete sampling and processing of unmarked and tagged fish in harvest and escapement.

Biases in any estimation of exploitation rates for unmarked and tagged fish could be due to:

- the lack of sampling for unmarked CWTs in some fisheries (e.g., coho and Chinook fisheries in AK),
- the lack of processing of heads from unmarked fish with detected CWTs (e.g., most Chinook catches in BC), incomplete reporting of unmarked recoveries to the RMIS database (e.g., from OR fisheries), and
- incomplete or inadequate sampling of escapement where returns of DIT releases are expected.

The SFEC-AWG is considering these issues and plans to provide a separate report to the PSC in 2008.

Review of MSF proposals

No proposals were received for 11 coho salmon MSFs for 2007. No proposals have been received for the Oregon coho fisheries for the last four fishery years.

Nine proposals were received for Chinook salmon MSFs for 2007. WDFW proposals were received for three ongoing marine MSFs and five freshwater MSFs. An ODFW proposal was received for the Willamette spring Chinook.

Issues and Concerns

Lack of proposals.

There were no coho MSF final proposals received, although some draft proposals were given to the SFEC committee at the time of review. Although coho MSFs have been received in the past, it is necessary for agencies to submit proposals annually for review. Although MM proposals were submitted for most all activities, these were not all submitted within the required timeframe. The SFEC is aware that significant new Chinook mass marking of fall Chinook from the Columbia River could occur in 2008.

Post season reports

The SFEC-AWG requested that agencies send post-season reports for each MSF fishery prosecuted. A template was provided for these reports as well as a new template for the MSFs. One post season report has been provided to date.

Utility of the CWT system

Despite the technical concerns introduced by MM and MSFs, for the near future, the coast wide CWT system remains the only method for the Parties of the Pacific Salmon Treaty to estimate and monitor coast wide exploitation rates on individual stocks of coho and Chinook salmon for the near future (Expert Panel, 2005).

The current list of coho and Chinook DIT pairs needs further review by the SFEC-AWG, the CTC, and the CoTC as there may be deficiencies in geographic coverage and tagging levels.

The SFEC-AWG has developed methods for using the DIT data to estimate unmarked mortalities (SFEC-AWG, 2002). However, concerns persist about whether the DIT system will yield useable estimates of unmarked exploitation rates in mark-selective fisheries for Chinook salmon. The multiple age distribution and far-ranging nature of Chinook salmon stocks increases the potential for biased estimates of mortalities using DITs. The SFEC is currently evaluating the utility of DIT for Chinook salmon. DIT releases for Chinook should be continued to both provide information for this evaluation.

Tag recovery reporting strata

Methods to estimate mortalities of unmarked and tagged DIT fish in MSFs differ markedly from the methods used to estimate mortalities in non-selective fisheries. In non-selective fisheries, when ETD is used, observed tag recoveries are available from sampling for both marked and unmarked tagged fish, whereas in MSFs only marked tagged recoveries are available. For this reason, tag recoveries and their sample expansions must be reported separately for MSFs and non-selective fisheries.

Mixed bag regulations

Proposals for some coho and Chinook salmon MSFs include mixed bag regulations, where some unmarked fish may be retained along with marked fish in a mark-selective fishery. Under such a regulation it is no longer possible to use any of the methods currently proposed to estimate unmarked encounters of a DIT pair from marked encounters. Methods need to be developed to make estimates in these situations.

Coordination of agency programs

Mass marking programs, DIT programs, and CWT sampling programs are no longer adequately synchronized between agencies. For example, the southern US plans to increase the mass marking of far north migrating Chinook, expand the number of Chinook MSFs, implement an extensive DIT program (both coho and Chinook), and continue to tag numerous conservation stocks without an adipose mark. At the same time, Alaska has no plans to convert from visual sampling to electronic sampling and Canada does not plan to increase ETD capability. These differences in sampling and tagging methodologies will impact analyses by PSC technical committees, eliminate the ability to conduct CWT-only studies, and degrade the ability to assess the impacts of MSFs.

Recommendations and Issues Requiring PSC Direction

Proposal Review Process

- It is recommended that the Commission reissue its' call to agencies for proposals for all potential 2008 MM and MSFs, and for agencies to provide preliminary and final reports on the conduct of MSFs.

- In order to assist the agencies in achieving this goal, the SFEC will provide agencies a table of indicator stocks and DIT groups with the proposal templates each year.

Interagency Coordination and Cooperation

MM, DIT, and CWT sampling programs are not sufficiently coordinated to support analysis by PSC technical committees. The PSC should continue to support technical and policy processes to develop agreements to clarify responsibilities for maintaining a functional CWT system.

Representation on SFEC

All agencies that are proposing MSFs should be represented on the SFEC. ODFW does not currently have any representative on SFEC. These representatives should be provided with adequate time to assist with completing the SFEC assignments

REVIEW OF 2008 MASS MARKING AND MARK SELELCTIVE FISHERY PROPOSALS.

SFEC (08)-2. – September 2008.

The coast wide coded-wire tag (CWT) system is the only means currently available to obtain data necessary to estimate and monitor coast wide exploitation rates on individual stocks of coho and Chinook salmon, as required for implementation of fishing regimes established by the Pacific Salmon Commission (PSC). The PSC established the Selective Fishery Evaluation Committee (SFEC) to assess impacts of mass marking (MM) and mark-selective fishing (MSF) on the viability of the CWT system.

This report (a) summarizes the results of the SFEC's review process of 2008 proposals for MM and MSF provided to the PSC between October and December 2007, (b) clarifies the oversight function of the SFEC, and (c) presents recommendations for addressing several unresolved issues and concerns.

Summary of 2008 Mass Marking Proposals

Throughout this report, a mass marked fish refers to an adipose fin clipped fish. and a double index tag (DIT) group includes two CWT groups, one marked (adipose fin clipped) and one unmarked.

Marking Programs

Seventeen MM proposals (8 coho and 9 Chinook) were received in 2008. The SFEC believes these proposals cover all but one MM programs involving Snake River fall Chinook.

Approximately 38 million coho are proposed to be MM'd coast wide in 2008 at a level comparable to that in 2007. The vast majority of hatchery coho production, from southern BC and southern US hatcheries intended for harvest, is now being mass marked.

Approximately 102 million Chinook are proposed to be MM'd from southern US Chinook hatcheries, an increase of 14.7 million (17%) from the 2007 proposals. The increases are primarily due to additional marking of Columbia River fall Chinook by ODFW.

Double Index Tagging (DIT)

Throughout this report, a double index tag (DIT) group includes two groups, one marked and one unmarked, each containing unique CWTs. Fishery impacts on natural stocks are commonly inferred from recoveries of CWT releases of representative hatchery fish. Prior to MSFs, these inferences could be made from a single CWT release. However, with the advent of MSFs, marked and unmarked fish are differentially retained. Total and fishery-specific impacts of MSFs can be estimated by comparing recoveries of DIT groups' releases. DIT requires sampling and recovery programs in all fisheries and escapements where the releases are likely to be encountered.

As MM and the potential for MSFs expand outside of Puget Sound and spring Columbia River stocks, DIT programs will be needed to estimate impacts on a broader suite of stocks.

Sampling and DIT Programs

Assuming recent exploitation rates and sampling programs, the SFEC estimates the proposed MM of southern US Chinook stocks in 2008 will result in annual encounters of untagged marked Chinook in sampling program of approximately 15,400 untagged and marked Chinook in Alaska and 24,300 untagged marked Chinook in Canada.

Prior to MM, the adipose fin clip was employed as a visual indicator for fish containing a CWT. Consequently, sampling programs were designed which collected heads from fish with missing adipose fins and extract CWTs. With MM, a large number of marked fish do not contain CWTs; further, CWTs must be recovered from both marked and unmarked fish to obtain data for DIT releases to estimate fishery impacts. Electronic tag detection (ETD) equipment has been developed as a means to efficiently identify marked and unmarked fish containing CWTs. However, ETD is not employed coast wide because of continuing reservations by some agencies regarding the cost and practical feasibility of incorporating this technology into their sampling programs.

Currently, only Washington (WA) is adequately sampling and reporting CWT recoveries of unmarked DIT releases in mixed stock areas. Lack of ETD results in the inability to recover CWTs from unmarked DIT releases in non-selective fisheries and escapements and in inefficient recovery of CWTs in marked fish (due to extra effort required to process heads from marked fish that do not contain CWTs). These inefficiencies may result in either lower recovery (sampling) rates or higher costs to maintain current recovery rates.

Generally, sampling programs in freshwater sport and escapements need to be improved, particularly in areas where DIT releases are expected to occur.

Summary of 2008 Mark Selective Fishery Proposals

Seven proposals were received for coho salmon MSFs for 2008. Four of these proposals were for ongoing BC fisheries, and three proposals were for ongoing WDFW marine recreational coho fisheries. Proposals for coho MSFs off the Oregon coast and in the Nooksack River have still not been received.

Nine proposals were received for Chinook salmon MSFs for 2008. Five of these proposals were from WDFW for ongoing MSFs in freshwater in Puget Sound. Three other proposals were from WDFW for Puget Sound MSFs in marine areas, two for summer fisheries and one for a winter fishery. One proposal was received from ODFW for a MSF on Willamette spring Chinook. Last year a new pre-terminal Chinook MSF was proposed for Puget Sound and Strait of Juan de Fuca (WA areas 6-13) for October to April of 2007-8. However, this fishery actually occurred in a smaller region (Areas 7, 8.1 and 8.2, 9 and 10). Last year a proposal was also received for a new summer MSF in Puget Sound. However, this summer MSF fishery actually occurred only in areas 9, 10, 11 and 13 for the period May to September in 2007.

Five proposals were received too late for review including a Columbia River coho sport MSF, three Columbia River Chinook MSFs and an MSF in the Yakima River.

Proposals.
Timelines: Some proposals were received too late for the committee review .

Missing proposals: MM proposals were received for all but one group, the potential marking of 600,000 Snake River fall Chinook from the IDFG Oxbow Hatchery. Proposals have still not been received for coho MSFs in the Nooksack River or off the Oregon coast.

Completeness: In general all information requested was supplied for MM proposals. The agencies did an improved job of submitting proposals for MSFs in 2008 some proposals were incomplete.

Post season reports.
Every year the SFEC has requested that agencies send post-season reports with information necessary for analysis of tag data. The SFEC views this as a component of the PST requirement for exchange of post-season fishery reports. A template was provided for three post MSF reports in, but no post-season reports had been provided by any agency in time for SFEC review. The information provided in the first two of these reports are necessary for analysis of DIT data and should be submitted in January of the year after the fishery. The first report provides information regarding sampling methods in all fisheries and escapements. The second report provides information regarding the conduct of MSFs. The third provides estimates of stock-specific estimates of MSFs and report should be provided once the fishery data are available and estimates finalized. SFEC members can be consulted by agencies for assistance in completing these reports.

Utility of the CWT system.

Despite the technical concerns introduced by MM and MSFs, CWTs remain the only method for the Parties of the Pacific Salmon Treaty to estimate and monitor coast wide exploitation rates on individual stocks of coho and Chinook salmon for the near future (Expert Panel, 2005).

The future of MSFs and DITs for Chinook.
MSFs for Chinook have been expanding since they were first instituted in 2003. At this time Chinook, MSFs for Chinook have occurred in Puget Sound or on spring Chinook in the Columbia River basin and the stocks impacted by these fisheries have DIT representation. However, as increasing numbers of Columbia River and coastal fall Chinook are MM, there is a possibility that MSFs on fall Chinook will be proposed for ocean fisheries in the future. If this is the case, the natural stocks that would be impacted are not represented by indicator stock DIT groups with the exception of Spring Creek Tules.

Coordination of agency programs
Synchronization between MM, DIT programs, and CWT sampling programs needs to be improved. For example, the southern US plans to increase MM of far north migrating

Chinook, expand the number of Chinook MSFs, implement an extensive DIT program (both coho and Chinook), and continue to tag numerous conservation stocks without an adipose mark. Lack of Electronic Tag Detection (ETD) in AK and some BC fisheries has the result that all clipped fish, tagged and untagged, must be checked for tags. This may result in either lower recovery (sampling) rates or higher costs to maintain current recovery rates. At the same time, Alaska has no plans to convert from visual to ETD sampling and Canada continues to rely upon voluntary recovery programs for its sport fisheries and does not plan to increase ETD capability or decode CWTs from non adipose-marked fish. These differences in sampling and tagging methodologies will impact analyses by PSC technical committees, eliminate the ability to conduct CWT-only studies, and degrade the ability to assess the impacts of MSFs.

Recommendations and Issues Requiring PSC Direction

Proposal Review Process

It is recommended that the Commission request agencies to submit complete proposals for all potential 2009 MM and MSFs in a timeframe necessary for SFEC review, and for agencies to provide both preliminary and final post-season reports on the conduct of MSFs.

DIT Review

The SFEC, CTC, and CoTC should undertake a review of DIT programs and identify the need for representation for groups of natural stocks that will be exploited in the future MSFs.

Interagency Coordination and Cooperation

MM, DIT, and CWT sampling programs are not sufficiently coordinated to support analysis by PSC technical committees. The PSC should continue to support technical and policy processes to develop agreements to clarify responsibilities for maintaining a functional CWT system.

Publications of the Pacific Salmon Commission

PART VI
PUBLICATIONS OF THE PACIFIC SALMON COMMISSION

Documents listed herein are available to domestic fishery agencies of Canada and the United States, research organizations, libraries, scientists and others interested in the activities of the Commission, through the offices of the Secretariat, 600 - 1155 Robson Street, Vancouver, B.C., V6E 1B5. Photocopying charges may be levied for documents which are out of print.

Reports published by the Pacific Salmon Commission after March 31, 2000 including Commission annual reports, annual reports of the Fraser River Panel, Joint Technical Committee reports and technical reports of the Pacific Salmon Commission are also available in full text format on the Commission's website at www.psc.org.

Documents listed here are those which were published during the period from 2007/08 inclusive. For previous publications, please refer to the Pacific Salmon Commission's website at www.psc.org/publications.

A. ANNUAL REPORTS

Pacific Salmon Commission 2006/07 Twenty Second Annual Report. February, 2009.

B. REPORTS OF JOINT TECHNICAL COMMITTEES

i. Joint Chinook Technical Committee

TCCHINOOK(08)-2 *2008 Annual Report of Catches and Escapement, Exploitation Rate Analysis and Model Calibration.* December 2008.

ii. Joint Chum Technical Committee

TCCHUM(08)-1 – *2006 Post Summary Report.* July 2008.

iii. Joint Coho Technical Committee

No reports were finalized for publication during this reporting period.

iv. Joint Data Sharing Technical Committee

No reports were finalized for publication during this reporting period.

v. Joint Northern Boundary Technical Committee

TCNB (08)-1 *U.S./Canada Northern Boundary Area 2007 Salmon fisheries Management Report and 2008 Preliminary Expectations.* April, 2008.

vi. Joint Transboundary Technical Committee

TCTR (08)-1 *Stock Compositions of Sockeye Salmon Catches in Southeast Alaska District 106 and 108 Gillnet Fisheris, 1991-1995, Estimates with Scale Pattern Analysis.* April, 2008.

TCTR (08)-2 *Estimates of Transboundary River Salmon Production, Harvest and Escapement and a Review of Joint Enhancement Activities in 2005.* November, 2008.

TCTR (08)-3 *Estimates of Transboundary River Salmon Production, Harvest and Escapement and a Review of Joint Enhancement Activities in 2006.* November, 2008.

TCTR (09)-1 *Transboundary Panel Strategic Salmon Plan.* March, 2009.

vii. Selective Fishery Evaluation Committee

SFEC (08)-1 *Review of 2007 Mass Marking and Mark Selective Fishery Proposals* September, 2008.

SFEC (08)-2 *Review of 2008 Mass Marking and Mark Selective Fishery Proposals* September, 2008.

C. REPORTS OF THE FRASER RIVER PANEL

Report of the Fraser River Panel to the Pacific Salmon Commission on the 2004 Fraser River Sockeye Salmon Fishing Season. PSC Staff. December 2008.

D. TECHNICAL REPORT SERIES OF THE PACIFIC SALMON COMMISSION

No reports were finalized for publication during this reporting period

E. PUBLICATIONS BY PACIFIC SALMON COMMISSION SECRETARIAT STAFF

Kulmala, S., Laukkanen, M. and Michielsens,C. (2008). ***Reconciling economic and biological modeling of migratory fish stocks: optimal management of the Atlantic salmon fishery in the Baltic Sea.*** Ecological Economics, 64:716-728.

Michielsens, C.G.J., McAllister, M.K., Kuikka, S., M?tyniemi, S., Romakkaniemi, A., Pakarinen, T., Kalsson, L. and Uusitalo, L. (2008). ***Combining multiple Bayesian data analyses in a sequential framework for quantitative fisheries stock assessment.*** Can. J. Fish. Aquat. Sci. 65: 962-974.

Xie, Y., Michielsens, C.G.J., Gray, A.P., Martens, F.J., and Boffey, J.L. (2008). ***Observations of avoidance reactions of migrating salmon to a mobile survey vessel in a riverine environment.*** Can. J. Fish. Aquat. Sci. 65: 2178-2190.

Farrell, A.P., Hinch, S.G., Cooke, S.J., Patterson, D.A., Crossin, G.T., Lapointe, M., and Mathes, M.T.(2008). ***Pacific salmon in hot water: applying aerobic scope models and biotelemetry to predict the success of spawning migrations***. Physiological and Biochemical Zoology 81(6): 697-708.

F. REPORTS OF THE INTERNATIONAL PACIFIC SALMON COMMISSION

Responsibility for maintenance of the library of the International Pacific Salmon Fisheries Commission, on its termination December 31, 1985, was transferred to the Pacific Salmon Commission. Documents in the Library include historical archival papers which are available to researchers and other interested parties through contact with the Pacific Salmon Commission's Librarian.

Publication of John F. Roos' History of the International Pacific Salmon Fisheries Commission, and P. Gilhousen's Estimation of Fraser River Sockeye Escapements ended all publication series of the International Pacific Salmon Fisheries Commission. Copies of all in-print Progress Reports and Bulletins of the International Pacific Salmon Fisheries Commission are available free of charge through the Library of the Pacific Salmon Commission. Copies of the History of the International Pacific Salmon Fisheries Commission may also be ordered through the Library of the Pacific Salmon Commission.

G. DOCUMENTS SUBMITTED BY THE PARTIES

In compliance with provisions of the Treaty, the Parties provide annual post-season fishery reports and updates on their respective salmonid enhancement programs to the Commission. Documents received during 2008/09 were:

Post Season Report for 2008 Canadian Treaty Limit Fisheries. Canada Department of Fisheries and Oceans. January, 2009.

Preliminary 2008 Post Season Report for United States Salmon Fisheries of Relevance to the Pacific Salmon Treaty. United States Section, Pacific Salmon Commission. December, 2008

Report of the Auditors for 2008/2009

PART VII
AUDITORS' REPORT AND FINANCIAL STATEMENTS FOR THE PERIOD APRIL 1, 2008 TO MARCH 31, 2009

Financial Statements of

PACIFIC SALMON COMMISSION

Year ended March 31, 2009

KPMG

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AUDITORS' REPORT TO THE COMMISSIONERS

We have audited the statement of financial position of the Pacific Salmon Commission (the "Commission") as at March 31, 2009 and the statements of operations and fund balances and cash flows for the year then ended. These financial statements have been prepared to comply with the Treaty Between the Government of Canada and the Government of the United States of America Concerning Pacific Salmon (the "Treaty"). These financial statements are the responsibility of the Commission's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the Commission, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Commission as at March 31, 2009 and the results of its operations and its cash flows for the year then ended in accordance with the basis of accounting described in note 2(a) to the financial statements.

These financial statements, which have not been, and were not intended to be, prepared in accordance with Canadian generally accepted accounting principles, are solely for the information and use of the Contracting Parties for complying with the Treaty. The financial statements are not intended to be and should not be used by anyone other than the specified users or for any other purpose.

KPMG LLP

Chartered Accountants

Burnaby, Canada
May 29, 2009

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PACIFIC SALMON COMMISSION

Statement of Financial Position
(Expressed in Canadian dollars)

March 31, 2009, with comparative figures for 2008

		Restricted						
	General Fund	Working Capital Fund	Test Fishing Fund	Special Research and Project Fund	Capital Assets Fund	Total	2009	2008
Assets								
Current assets:								
Cash	$ 1,829,738	$ 98,352	$ 544,083	$ 100,049	$ -	$ 742,484	$ 2,572,222	$ 2,560,804
Accounts receivable	63,913	-	-	-	-	-	63,913	131,088
Interest receivable	154	-	-	-	-	-	154	4,939
Prepaid expenses	35,516	-	-	-	-	-	35,516	25,745
Short-term investments	50,000	-	-	-	-	-	50,000	50,000
	1,979,321	98,352	544,083	100,049	-	742,484	2,721,805	2,772,576
Capital assets (note 3)	-	-	-	-	498,773	498,773	498,773	507,195
	$ 1,979,321	$ 98,352	$ 544,083	$ 100,049	$ 498,773	$ 1,241,257	$ 3,220,578	$ 3,279,771
Liabilities and Fund Balances								
Current liabilities:								
Accounts payable and accrued liabilities	$ 338,819	$ -	$ -	$ -	$ -	$ -	$ 338,819	$ 173,089
Due to Trusts	217	-	-	-	-	-	217	196,700
Accrued benefit liability (note 5)	329,635	-	-	-	-	-	329,635	290,794
Deferred revenue	845,954	-	-	-	-	-	845,954	969,635
	1,514,625	-	-	-	-	-	1,514,625	1,630,218
Net assets:								
Unrestricted	464,696	-	-	-	-	-	464,696	396,486
Internally restricted	-	98,352	544,083	100,049	-	742,484	742,484	745,872
Invested in capital assets	-	-	-	-	498,773	498,773	498,773	507,195
	464,696	98,352	544,083	100,049	498,773	1,241,257	1,705,953	1,649,553
	$ 1,979,321	$ 98,352	$ 544,083	$ 100,049	$ 498,773	$ 1,241,257	$ 3,220,578	$ 3,279,771

See accompanying notes to financial statements.

Approved on behalf of the Commission:

____________________ Chair, Standing Committee on Finance and Administration

____________________ Vice-Chair, Standing Committee on Finance and Administration

PACIFIC SALMON COMMISSION

Statement of Operations and Fund Balances
(Expressed in Canadian dollars)

Year ended March 31, 2009, with comparative figures for 2008

		Restricted						
	General Fund	Working Capital Fund	Test Fishing Fund	Special Research and Project Fund	Capital Assets Fund	Total	2009	2008
Revenue:								
Contributions from contracting parties (note 6)	$ 3,458,306	$ -	$ -	$ -	$ -	$ -	$ 3,458,306	$ 3,175,938
Grants	107,529	-	-	115,064	-	115,064	222,593	94,302
Interest	50,353	1,659	-	-	-	1,659	52,012	97,687
Other	7,898	-	-	-	-	-	7,898	40
Gain on disposal of capital assets	-	-	-	-	8,805	8,805	8,805	-
Test fishing	894,354	-	-	-	-	-	894,354	1,055,820
	4,518,440	1,659	-	115,064	8,805	125,528	4,643,968	4,423,787
Expenses:								
Amortization	-	-	-	-	212,082	212,082	212,082	210,644
Salaries and employee benefits	2,556,901	-	-	-	-	-	2,556,901	2,296,811
Travel and transportation	106,412	-	-	-	-	-	106,412	139,095
Rents and communication	113,857	-	-	-	-	-	113,857	116,791
Printing and reproductions	12,072	-	-	-	-	-	12,072	13,833
Contract services	526,817	-	-	-	-	-	526,817	468,000
Materials and supplies	48,864	-	-	-	-	-	48,864	59,153
Test fishing	894,354	-	-	-	-	-	894,354	994,046
Loss on disposal of capital assets	-	-	-	-	-	-	-	2,574
Consultations and workshops	-	3,307	-	112,902	-	116,209	116,209	2,057
	4,259,277	3,307	-	112,902	212,082	328,291	4,587,568	4,303,004
Excess (deficiency) of revenue over expenses	259,163	(1,648)	-	2,162	(203,277)	(202,763)	56,400	120,783
Fund balance, beginning of year	396,486	103,902	544,083	97,887	507,195	1,253,067	1,649,553	1,528,770
Interfund transfers	(190,953)	(3,902)	-	-	194,855	190,953	-	-
Fund balance, end of year	$ 464,696	$ 98,352	$ 544,083	$ 100,049	$ 498,773	$ 1,241,257	$ 1,705,953	$ 1,649,553

See accompanying notes to financial statements.

PACIFIC SALMON COMMISSION

Statement of Cash Flows
(Expressed in Canadian dollars)

Year ended March 31, 2009, with comparative figures for 2008

	2009	2008
Cash provided by (used in):		
Operations:		
Excess of revenue over expenses	$ 56,400	$ 120,783
Items not involving cash:		
Amortization	212,082	210,644
Loss (gain) on sale of capital assets	(8,805)	2,574
Net change in non-cash operating working capital	(53,404)	974,037
	206,273	1,308,038
Investing:		
Additions to capital assets	(204,897)	(183,880)
Proceeds on sale of capital assets	10,042	7,850
	(194,855)	(176,030)
Increase in cash	11,418	1,132,008
Cash, beginning of year	2,560,804	1,428,796
Cash, end of year	$ 2,572,222	$ 2,560,804

See accompanying notes to financial statements.

1. Nature of organization:

The Pacific Salmon Commission (the "Commission") was established by the Treaty between the Governments of Canada and the United States of America (the "Contracting Parties") to promote cooperation in the management, research and enhancement of Pacific salmon stocks. The Treaty was ratified on March 18 and renewed on June 30, 1999 and December 23, 2008. The Commission commenced operations on September 26, 1985.

2. Significant accounting policies:

(a) Basis of accounting:

These financial statements present the financial position and results of operation of the Commission to comply with the requirements of the Treaty between the Government of Canada and the Government of the United States of America concerning Pacific Salmon, and may not be appropriate for other purposes. As required by Chapter IX Section D of the Commission Bylaws, the financial statements are prepared on an accrual basis except that expenses are recognized at the time that the commitment for goods and services are made through purchase orders, rather than at the time that the goods or services are delivered. In all other material respects, these financial statements have been prepared in accordance with Canadian generally accepted accounting principles for not-for-profit entities.

(b) Fund accounting and revenue recognition:

(i) Revenue recognition:

The Commission follows the restricted fund method of accounting for contributions from Contracting Parties.

Restricted contributions related to general operations are initially deferred and recognized as revenue of the General Fund in the year in which the related expenses are incurred. All other restricted contributions are recognized as revenue of the appropriate restricted fund.

Unrestricted contributions are recognized as revenue of the General Fund in the year received or receivable if the amount to be received can be reasonably established and collection is reasonably assured.

The Fund classifications are as follows:

(ii) The General Fund includes funds provided annually through contributions from the Contracting Parties. By agreement of the Contracting Parties, any unexpended balance remaining at the end of one fiscal year may be used to offset contributions in the following year or may be used to offset a shortfall between contributions and approved expenses in the following year.

2. Significant accounting policies: (continued)

(b) Fund accounting and revenue recognition (continued):

(iii) The Working Capital Fund represents monies contributed by the Contracting Parties to be used temporarily pending receipt of new contributions from the Contracting Parties at the beginning of a fiscal year, or for special programs not contained in the regular budget but approved during the fiscal year. Any surplus above a pre-determined fixed limit in the account at the end of the fiscal year is transferred to the general fund and is treated as income.

(iv) The Test Fishing Fund is established as a revolving fund in which a portion of net test fishing revenues realized in years of high abundance are reserved to be used to support test fishing programs in years of low abundance and when conservation concerns are an issue.

(v) The Special Research and Project Fund represents monies set aside to fund additional programs as determined by the Contracting Parties, including studies related to Coho salmon, Bilateral Workshop for Genetics Analysis Pacific Salmonids Group and US Grant Funds for Chinook Technical Committee Support.

(vi) The Capital Assets Fund reflects the Commission's capital asset transactions. Amortization is charged to the Capital Fund.

(c) Financial instruments:

The Commission accounts for its financial instruments in accordance with Canadian Institute of Chartered Accountants ("CICA") Handbook Section 3855, *Financial instruments - Recognition and Measurement* and CICA Handbook Section 3861, *Financial Instruments - Disclosure and Presentation*.

Under Handbook Section 3855, all financial instruments are classified into one of the following five categories: held for trading, held-to-maturity investments, loans and receivables, available-for-sale financial assets or other financial liabilities. All financial instruments, including derivatives, are included on the statement of financial position and are measured at fair market value, with the exception of loans and receivables, investments held-to-maturity and other financial liabilities, which are measured at amortized cost. Measurement in subsequent periods depends on whether the financial instrument has been classified as held for trading, available-for-sale, held-to-maturity, loans and receivables, or other financial liabilities.

The Commission's financial instruments are cash, accounts receivable, interest receivable, short-term investments, accounts payable and accrued liabilities and due to Trusts. The Commission classifies its cash and short-term investments as held for trading.

The Commission classifies its accounts receivable and interest receivable as loans and receivables which are recorded at amortized cost. The Commission classifies its accounts payable and accrued liabilities, accrued benefit liability and due to Trusts as other liabilities which are recorded at amortized cost.

2. Significant accounting policies: (continued)

(d) Trust funds:

(i) The Commission administers and holds in trust the Northern Boundary and Transboundary River Restoration and Enhancement Trust Fund and the Southern Boundary Restoration and Enhancement Trust Fund (the "Trusts"). The assets, liabilities, revenue and expenses of these trust funds are not included in the Commission's financial statements.

(ii) The Commission also administers and holds amounts in trust funds on behalf of the Government of the United States to disburse U.S. section salary under a Memorandum of Understanding. The Commission also holds funds on behalf of the U.S. Government to be disbursed as directed by the U.S. Section of the PSC. The assets, liabilities, revenue and expenses of these trust funds are not included in the Commission's financial statements.

(iii) The Commission holds funds on behalf of Canada to be disbursed for Test Fishing programs under a Joint Project Agreement.

(e) Capital assets:

Capital assets are stated at cost less accumulated amortization. Costs of repairs and replacements of a routine nature are charged as a current expense while those expenses which improve or extend the useful life of the assets are capitalized. Amortization is provided using the straight-line method of rates sufficient to amortize the costs over the estimated useful lives of the assets.

Automobiles	5 years
Boats	5 years
Computer equipment and software	3.3 years
Equipment	5 years
Furniture and fixtures	10 years
Leasehold improvements	10 years

(f) Income taxes:

The Commission is a non-taxable organization under the Foreign Missions and International Organizations Act (1991).

2. Significant accounting policies: (continued)

(g) Post-employment benefits:

The Commission provides certain employee future benefits, including a defined benefit pension plan, which is funded by the Commission on an annual basis, and severance, life insurance and medical benefits, which are funded by the Commission as they become due.

The Commission accrues its obligations under employee benefit plans and the related costs as benefits are earned, net of returns on plan assets.

The Commission's policies are as follows:

(i) The cost of retirement benefits earned by employees is actuarially determined using the projected benefit method prorated on service and management's best estimate of salary escalation and retirement ages of employees.

(ii) The expected interest cost on any prior service obligation is calculated using management's estimate for the long-term rate of return.

(iii) The expected return on plan assets is calculated at a market-related value for the assets.

(iv) Any cumulative unrecognized actuarial gains and losses in excess of 10% of the projected benefit obligation will be amortized over the expected average remaining service life of the employee group covered by the program.

(v) As at January 1, 2009, the Commission had an unamortized transitional obligation of $27,049 (2008 - $43,933), which is being amortized over the average remaining service period of covered employees. The average remaining service life of the related employee group is 17 years and the average remaining service life of the employee group of the supplemental executive retirement plan is 4 years.

(h) Foreign exchange translation:

Transactions originating in foreign currencies are translated at the exchange rate prevailing at the transaction dates. Assets and liabilities denominated in foreign currency at the balance sheet date are translated to equivalent Canadian amounts at the current rate of exchange. Foreign exchange gains and losses resulting from translation are included in the determination of excess or deficiency of revenue over expenses.

2. Significant accounting policies: (continued)

(i) Use of estimates:

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant areas requiring the use of management estimates relate to the determination of the valuation of accounts receivable, useful lives of capital assets for amortization and accrued liabilities. Actual results could differ from those estimates. Adjustments, if any, will be reflected in operations in the period of settlement.

(j) Assessing going concern:

Effective April 1, 2008, the Commission implemented Handbook Section 1400, *General Standards of Financial Statement Presentation*, which includes requirements for management to assess and disclose an entity's ability to continue as a going concern. Management has made its assessment and concluded there is no issue regarding the Commission's ability to continue as a going concern. If there are significant declines in funding, expenditures will be adjusted to match committed funding.

(k) Capital disclosure:

Effective April 1, 2008, the Commission adopted Handbook Section 1535, *Capital Disclosures*. Under this new standard, the Commission is required to disclose both qualitative and quantitative information that enables users of the financial statements to evaluate the Commission's objectives, policies, and processes for managing capital. It also includes disclosure regarding what the Commission regards as capital, whether the Commission has complied with any external requirements and in the event of non-compliance, the consequences of not complying with these capital requirements (see note 8)

2. Significant accounting policies: (continued)

(l) Future accounting changes:

(i) Changes in accounting framework:

The Canadian Institute of Chartered Accountants has decided to transition Canadian GAAP for publicly accountable entities to International Financial Reporting Standards (IFRS) effective January 1, 2011. The Accounting Standards Board (AcSB) and Public Sector Accounting Board (PSAB) have jointly issued an Invitation to Comment to invite feedback on the future of financial reporting by not-for-profit organizations. The Commission is in the process of reviewing the impact of these documents on its reporting framework and financial statements.

(ii) Financial instruments – presentation and disclosure:

Section 3862, Financial Instruments – *Disclosure*, and CICA 3863, *Financial Instruments – Presentation*, were both issued in December 2006 and were applicable for years beginning on or after October 1, 2007. The sections revise the current standards on financial instrument disclosure and presentation, and place an increased emphasis on disclosures regarding the risks associated with both recognized and unrecognized financial instruments and how these risks are managed. Section 3863 establishes standards for presentation of financial instruments and non-financial derivatives and provides additional guidance with classification of financial instruments, from the perspective of the issuer, between liabilities and equity. In September 2008, the AcSB decided that not-for-profit organizations are not currently required to apply these enhanced financial instruments standards. The Commission has elected to defer implementation of these new standards.

(iii) Other revisions to NPO accounting standards:

There are several other changes effective for periods beginning on or after January 1, 2009, which clarify the applicability of Accounting Guidelines ("AcGs") and Abstracts of Issues Discussed by the Emerging Issues Committee ("EICs") to NPOs, remove the requirement to disclose net assets invested in capital assets, clarify capital asset recognition criteria and amortization, expand interim financial statement requirements to NPOs, and require disclosure of allocated fundraising and general support expenses by NPOs. These changes are not expected to have a material impact on the Commission's financial statements.

3. Capital assets:

	Cost	Accumulated amortization	2009 Net book value	2008 Net book value
Automobiles	$ 239,839	$ 175,317	$ 64,522	$ 55,069
Boats	133,497	123,351	10,146	15,530
Computer equipment	692,881	614,492	78,389	75,689
Computer software	199,645	182,452	17,193	9,837
Equipment	1,259,964	1,025,891	234,073	237,066
Furniture and fixtures	303,924	274,753	29,171	37,326
Leasehold improvements	133,519	68,240	65,279	76,678
	$ 2,963,269	$ 2,464,496	$ 498,773	$ 507,195

4. General fund balance:

The Commission has approved a carryover of the unexpended funds in the general fund to be utilized as follows:

	2009	2008
Continuing operations	$ 429,180	$ 370,741
Reserve for prepaid expenses	35,516	25,745
	$ 464,696	$ 396,486

5. Employee future benefits:

The Commission and its employees contribute to the Pension Plan of the International Fisheries Commissions Pension Society for Employees of Participating Commissions with Headquarters in Canada, a multi-employer defined benefit plan. The plan covers 66 employees, of which 40 are current or past employees of the Commission. The Commission also provides employee future benefits including severance, life insurance and medical benefits.

The Commission's liabilities are based on an actuarial valuation using an early measurement date of January 1, 2008.

	Pension plan	Severance, life insurance and medical benefits	2009	2008
Reconciliation of accrued benefit obligation:				
Opening fair value of accrued benefit obligation	$(8,063,000)	$ (526,200)	$ (8,589,200)	$ (8,673,128)
Current service cost	(258,124)	(37,600)	(295,724)	(265,904)
Benefits paid	189,777	7,209	196,986	197,105
Interest cost	(452,443)	(30,596)	(483,039)	(442,025)
Transitional obligation	-	-	-	(99,000)
Actuarial gain	1,698,790	53,287	1,752,077	693,752
Ending fair value of accrued benefit obligation	$(6,885,000)	$ (533,900)	$ (7,418,900)	$ (8,589,200)

	Pension plan	Severance, life insurance and medical benefits	2009	2008
Reconciliation of plan assets:				
Opening fair value of plan assets	$ 6,218,642	$ -	$ 6,218,642	$ 5,947,981
Actual return (loss) on plan assets	(873,309)	-	(873,309)	5,346
Employer contributions	275,121	7,209	282,330	368,624
Employee contributions	99,003	-	99,003	93,796
Benefits paid	(189,777)	(7,209)	(196,986)	(197,105)
Ending fair value of plan assets	$ 5,529,680	$ -	$ 5,529,680	$ 6,218,642
Net unfunded obligation	$ (1,355,320)	$ (533,900)	$ (1,889,220)	$ (2,370,558)
Unamortized transitional obligation (asset)	27,049	-	27,049	43,933
Unamortized net actuarial loss	1,439,325	93,211	1,532,536	2,035,831
Accrued benefit asset (liability)	$ 111,054	$ (440,689)	$ (329,635)	$ (290,794)

5. Employee future benefits: (continued)

The significant actuarial assumptions adopted in measuring the Commission's accrued pension benefit liability are as follows:

	2009	2008
Discount rate	7.0%	5.5%
Expected long-term rate of return on plan assets	7.0%	7%
Rate of compensation increase	3.5%	3.5%

The plan asset portfolio currently comprises equity investments and debt. Equity investments are 55.67% (2008 - 63.96%) of the portfolio and include Canadian and International investments. Debt is 44.33% (2008 - 36.04%) of the portfolio and comprises short-term debt, bonds and mortgages. The asset mix is reviewed periodically and may vary in the future.

The Commission's net benefit plan expense is as follows:

	2009	2008
Current service cost (less employees contributions)	$ 192,821	$ 172,108
Interest cost	483,039	442,025
Expected return on plan assets	(441,757)	(417,846)
Amortization of transitional (asset) obligation	16,884	(7,866)
Amortization of net actuarial loss	70,184	98,872
Net benefit plan expense	$ 321,171	$ 287,293

The net benefit plan expense is included in salaries and employee benefits on the statement of operations and fund balances.

6. Related parties:

The Commission's only related parties are the Contracting Parties and the Trusts.

During the fiscal year ended March 31, 2009, the Commission received contributions from Contracting Parties totaling $3,458,306 (2008 - $3,175,938). The Commission incurred no expenses to the Contracting Parties during the year.

The Commission received $836,385 (2008 - $1,011,459) of contributions from one of the Contracting Parties relating to fiscal year March 31, 2010. This contribution is included in deferred revenue.

During the fiscal year ended March 31, 2009, the Commission received funding for projects from the Trusts totaling $117,099 (2008 - $161,641). An amount of $107,529 (2008 - $94,302) was recorded as revenue and an amount of $9,570 (2008 - $67,339) was recorded as deferred income.

The office and warehouse are provided by the Government of Canada with no charge.

7. Trust funds:

The Commission administers and holds in trust the following funds which are not included in the Commission's financial statements:

(a) Northern Boundary and Transboundary River Restoration and Enhancement Trust Fund:

Northern Boundary and Transboundary River Restoration and Enhancement Trust Fund ("Northern Boundary") was created by the Governments of the United States of America and Canada to manage its interest in the Commission to promote cooperation in the management, research and enhancement of Pacific Salmon stocks. The income earned on these contributions is distributed by the Commission as directed by the Northern Enhancement Committee.

(b) Southern Boundary and Transboundary River Restoration and Enhancement Trust Fund:

Southern Boundary and Transboundary River Restoration and Enhancement Trust Fund ("Southern Boundary") was created by the Governments of the United States of America and Canada to manage its interest in the Commission to promote cooperation in the management, research and enhancement of Pacific Salmon stocks. The income earned on these contributions is distributed by the Commission as directed by the Southern Enhancement Committee.

(c) Payroll Trust Funds:

The Commission administers and holds trust funds on behalf of the Government of the United States to distribute U.S. section salary under a Memorandum of Understanding. These amounts have been excluded from the statement of financial position and statement of operations and fund balances of the Commission.

(d) U.S. Expenditures Trust Funds:

The Commission administers and holds trust funds on behalf of the Government of the United States of America. They are to be expended at the direction of the Government of the United States of America. These amounts have been excluded from the statements of financial position and statement of operations and fund balances of the Commission.

(e) Canadian Test Fish Trust Funds:

The Commission administers and holds trust funds on behalf of the Government of Canada. These funds are held pursuant to a Joint Project Agreement related to the test fishing programs outside the Pacific Salmon Commission's fishery management area. They are to be expended at the direction of the Government of Canada. These amounts have been excluded from the statements of financial position and statement of operations and fund balances of the Commission.

7. Trust funds (continued):

(f) Summary of trust fund balances:

	Northern Boundary	Southern Boundary	US Payroll Trust Funds	US Expenditure Trust Funds	Canadian Test Fish Trust Funds	2009 Total	2008 Total
Assets	$ 88,385,965	$ 73,190,072	$ 13,656	$ 181,781	$ 282,230	$ 162,053,704	$ 209,289,654
Liabilities and fund balances							
Liabilities	$ 91,386	$ 101,676	$ 13,656	$ 181,781	$ 282,230	$ 670,729	$ 201,041
Fund balances	88,294,579	73,088,396	-	-	-	161,382,975	209,088,613
	$ 88,385,965	$ 73,190,072	$ 13,656	$ 181,781	$ 282,230	$ 162,053,704	$ 209,289,654

	Northern Boundary	Southern Boundary	Trust Funds	Trust Funds	Trust Funds	2009 Total	2008 Total
Fund balance, beginning of year	$ 114,498,475	$ 94,590,138	$ -	$ -	$ -	$ 209,088,613	$ 209,125,227
Revenue	(28,045,637)	(23,639,724)	-	-	-	(51,685,361)	(28,887,158)
Expenses	1,841,741	2,137,982	-	-	-	3,979,723	(9,224,531)
Transitional adjustment on adoption of new accounting standards	-	-	-	-	-	-	38,075,075
Fund balance, end of year	$ 88,294,579	$ 73,088,396	$ -	$ -	$ -	$ 161,382,975	$ 209,088,613

8. Capital management:

The Commission receives its principal source of capital through contributions received from the Contracting Parties. The Commission defines capital to be net assets.

The Commission's objective when managing capital is to fund its operational requirements and capital asset additions. The Commission makes adjustments based on available government funding and economic conditions. Currently, the Commission's strategy is to monitor expenditures to preserve capital in accordance with available and budgeted funding.

The Commission is not subject to debt covenants or any other capital requirements with respect to operating funding. Funding received for designated purposes must be used for the purpose outlined in the Treaty, Bylaws, budget and funding instructions. The Commission has complied with the external restrictions on the funding provided.

9. Comparative figures:

Certain comparative figures have been reclassified to conform with the financial statement presentation adopted in the current year.

Combined Financial Statements of

NORTHERN BOUNDARY AND TRANSBOUNDARY RIVER RESTORATION AND ENHANCEMENT TRUST FUND

and

SOUTHERN BOUNDARY RESTORATION AND ENHANCEMENT TRUST FUND

Year ended March 31, 2009

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AUDITORS' REPORT TO THE TRUSTEES

We have audited the combined statement of financial position of The Northern Boundary and Transboundary River Restoration and Enhancement Trust Fund and The Southern Boundary Restoration and Enhancement Trust Fund (the "Trusts") as at March 31, 2009 and the combined statements of operations and fund balance and cash flows for the year then ended. These financial statements are the responsibility of the Trusts' management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these combined financial statements present fairly, in all material respects, the financial position of the Trusts as at March 31, 2009 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

KPMG LLP

Chartered Accountants

Burnaby, Canada
May 29, 2009

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NORTHERN BOUNDARY AND TRANSBOUNDARY RIVER RESTORATION AND ENHANCEMENT TRUST FUND
and
SOUTHERN BOUNDARY RESTORATION AND ENHANCEMENT TRUST FUND
Combined Statement of Financial Position
(Expressed in Canadian dollars)

March 31, 2009, with comparative figures for 2008

	Northern Boundary	Southern Boundary	2009 Total	2008 Total
Assets				
Current assets:				
Cash and cash equivalents	$ 3,933,834	$ 2,097,565	$ 6,031,399	$ 14,132,695
Due from Pacific Salmon Commission	24,384	-	24,384	196,700
Interest receivable	178	99	277	34,025
	3,958,396	2,097,664	6,056,060	14,363,420
Investments (note 3)	84,427,569	71,092,408	155,519,977	194,912,241
	$ 88,385,965	$ 73,190,072	$ 161,576,037	$ 209,275,661
Liabilities and Fund Balance				
Current liabilities:				
Accounts payable and accrued liabilities	$ 91,386	$ 77,509	$ 168,895	$ 187,048
Due to Pacific Salmon Commission	-	24,167	24,167	-
Fund balance	88,294,579	73,088,396	161,382,975	209,088,613
	$ 88,385,965	$ 73,190,072	$ 161,576,037	$ 209,275,661

See accompanying notes to combined financial statements.

Contractual obligations (note 4)
Minimum fund balance (note 5)

NORTHERN BOUNDARY AND TRANSBOUNDARY RIVER RESTORATION AND ENHANCEMENT TRUST FUND

and

SOUTHERN BOUNDARY RESTORATION AND ENHANCEMENT TRUST FUND

Combined Statement of Operations and Fund Balance
(Expressed in Canadian dollars)

Year ended March 31, 2009, with comparative figures for 2008

	Northern Boundary	Southern Boundary	2009 Total	2008 Total
Expenses:				
Administrative services (note 6)	$ 126,862	$ 126,862	$ 253,724	$ 249,837
Travel and accommodation	24,161	22,138	46,299	60,569
Rents and communications	1,383	724	2,107	4,489
Contract services	21,497	37,619	59,116	59,701
Investment management services	573,427	491,850	1,065,277	1,165,455
Project grants	4,191,397	2,892,016	7,083,413	7,605,115
Materials and supplies	740	694	1,434	2,580
	4,939,467	3,571,903	8,511,370	9,147,746
Investment loss	(21,264,429)	(17,929,839)	(39,194,268)	(28,963,943)
Deficiency of revenue over expenses	(26,203,896)	(21,501,742)	(47,705,638)	(38,111,689)
Fund balance, beginning of year	114,498,475	94,590,138	209,088,613	247,200,302
Fund balance, end of year (note 5)	$ 88,294,579	$ 73,088,396	$ 161,382,975	$ 209,088,613

See accompanying notes to combined financial statements.

NORTHERN BOUNDARY AND TRANSBOUNDARY RIVER RESTORATION AND ENHANCEMENT TRUST FUND
and
SOUTHERN BOUNDARY RESTORATION AND ENHANCEMENT TRUST FUND

Combined Statement of Cash Flows
(Expressed in Canadian dollars)

Year ended March 31, 2009, with comparative figures for 2008

	Northern Boundary	Southern Boundary	2009 Total	2008 Total
Cash provided by (used in):				
Operations:				
Deficiency of revenue over expenses	$ (26,203,896)	$ (21,501,742)	$ (47,705,638)	$ (38,111,689)
Non-cash item:				
Fair value adjustment on held for trading investments	21,385,016	18,007,248	39,392,264	40,671,299
Change in non-cash operating working capital:				
Due from (to) Pacific Salmon Commission	76,811	119,672	196,483	(385,283)
Interest receivable	20,479	13,269	33,748	(4,948)
Accounts payable and accrued liabilities	(10,264)	(7,889)	(18,153)	(58,394)
Increase (decrease) in cash and cash equivalents	(4,731,854)	(3,369,442)	(8,101,296)	2,110,985
Cash and cash equivalents, beginning of year	8,665,688	5,467,007	14,132,695	12,021,710
Cash and cash equivalents, end of year	$ 3,933,834	$ 2,097,565	$ 6,031,399	$ 14,132,695
Supplementary information:				
Non-cash item:				
Transitional adjustment on adoption of new accounting standards	$ -	$ -	$ -	$ 38,075,075

See accompanying notes to combined financial statements.

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1. Nature of organization:

The Northern Boundary and Transboundary River Restoration and Enhancement Trust Fund and the Southern Boundary Restoration and Enhancement Trust Fund (the "Trusts") were created by the Governments of the United States of America and Canada to manage their interest in the Pacific Salmon Commission (the "Commission") to promote cooperation in the management, research and enhancement of Pacific salmon stocks. The financial statements are prepared on a combined basis due to the common administration by the management of the Pacific Salmon Commission.

2. Significant accounting policies:

(a) Basis of accounting:

These combined financial statements present the financial position and results of operation of the Trusts in accordance with Canadian generally accepted accounting principles ("Canadian GAAP") for not-for-profit organizations.

(b) Financial instruments:

The Trusts account for their financial instruments in accordance with Canadian Institute of Chartered Accountants ("CICA") Handbook Section 3855, *Financial Instruments - Recognition and Measurement*, and CICA Handbook Section 3861, *Financial Instruments - Disclosure and Presentation*.

Under Handbook Section 3855, all financial instruments are classified into one of the following five categories: held for trading, held-to-maturity investments, loans and receivables, available-for-sale financial assets or other financial liabilities. All financial instruments, including derivatives, are included on the statement of financial position and are measured at fair market value, with the exception of loans and receivables, investments held-to-maturity and other financial liabilities, which are measured at amortized cost. Measurement in subsequent periods depends on whether the financial instrument has been classified as held for trading, available-for-sale, held-to-maturity, loans and receivables, or other financial liabilities.

The Trusts' financial instruments are cash and cash equivalents, due from (to) Pacific Salmon Commission, interest receivable, investments and accounts payable and accrued liabilities. The Trusts classify their cash and cash equivalents and investments as held for trading. The Trusts classify their due from (to) Pacific Salmon Commission and interest receivable as loans and receivables (other financial liabilities) which are recorded at amortized cost. The Trusts classify their accounts payable and accrued liabilities as other liabilities which are recorded at amortized cost.

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2. Significant accounting policies (continued):

(c) Cash and cash equivalents:

Cash and cash equivalents are comprised of cash on hand and short term deposits with original maturities of three months or less.

(d) Investments:

Purchases and sales of investments are recorded on a trade date basis and are measured at fair value with realized and unrealized gains and losses included on the combined statement of operations.

(e) Income taxes:

The Trusts are non-taxable organizations under the Foreign Missions and International Organizations Act (1991).

(f) Foreign exchange translation:

Transactions originating in foreign currencies are translated at the exchange rate in effect at the transaction dates. Monetary items and non-monetary assets that are carried at market denominated in foreign currency at the balance sheet date are translated to equivalent Canadian amounts at the exchange rate in effect at the balance sheet date. Foreign exchange gains and losses resulting from translation are included in the determination of excess or deficiency of revenue over expenses.

(g) Use of estimates:

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Adjustments, if any, will be reflected in operations in the period of settlement or when estimates change.

(h) Contractual obligations:

Contractual obligations are funded in instalments and payments are due based on conditions included in the contract being satisfied. Expenses and liabilities are recognized in the financial statements as these conditions are met.

2. Significant accounting policies (continued):

(i) Assessing going concern:

CICA Handbook Section 1400, *General Standards of Financial Statement Presentation*, requires management to assess and disclose an entity's ability to continue as a going concern. Based on the assessment by management, there is no issue regarding the Trusts' ability to continue as a going concern despite the significant investment losses that the funds have incurred and the current condition of the funds being below the minimum fund balances requirement (note 5).

(j) Capital disclosures:

CICA Handbook Section 1535, *Capital Disclosures*, requires quantitative disclosure about what is regarded as capital and disclosure of information with respect to the objectives, policies and processes used by the Trusts to manage capital. These disclosures are included in note 7 to the financial statements.

(k) Future accounting policies:

(i) Changes in accounting framework:

The CICA has decided to transition Canadian GAAP for publicly accountable entities to International Financial Reporting Standards effective January 1, 2011. The Trusts are currently classified as not-for-profit organizations. The Accounting Standards Board (AcSB) and Public Sector Accounting Board (PSAB) have jointly issued an Invitation to Comment to invite feedback on the future of financial reporting by not-for-profit organizations. The Trusts are in the process of reviewing the impact of these documents on their reporting framework and financial statements.

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2. Significant accounting policies (continued):

(k) Future accounting policies (continued):

(ii) Financial instruments – presentation and disclosure:

Section 3862, *Financial Instruments – Disclosure*, and CICA 3863, *Financial Instruments – Presentation*, were both issued in December 2006 and were applicable for years beginning on or after October 1, 2007. The sections revise the current standards on financial instrument disclosure and presentation, and place an increased emphasis on disclosures regarding the risks associated with both recognized and unrecognized financial instruments and how these risks are managed. Section 3863 establishes standards for presentation of financial instruments and non-financial derivatives and provides additional guidance with classification of financial instruments, from the perspective of the issuer, between liabilities and equity. In September 2008, the AcSB decided that not-for-profit organizations are not currently required to apply these enhanced financial instruments standards. The Trusts have deferred implementation of these sections.

(iii) Other revisions to NPO accounting standards:

There are several other changes effective for periods beginning on or after January 1, 2009, which clarify the applicability of Accounting Guidelines ("AcGs") and Abstracts of Issues Discussed by the Emerging Issues Committee ("EICs") to NPOs, remove the requirement to disclose net assets invested in capital assets, clarify capital asset recognition criteria and amortization, expand interim financial statement requirements to NPOs, and require disclosure of allocated fundraising and general support expenses by NPOs. These changes are not expected to have a material impact on the Trusts' financial statements.

3. Investments:

Investments consist of mutual funds under the supervision of a custodian.

Investments as at March 31 consist of the following managed funds:

	Northern Boundary	Southern Boundary	2009 Total	2008 Total
International Equity Fund	$ 14,564,330	$ 12,263,924	$ 26,828,254	$ 37,109,600
US Equity Fund	23,635,227	19,902,091	43,537,318	54,046,446
Global Equity Fund	18,587,878	15,651,961	34,239,839	40,248,910
Canadian Bond	27,640,134	23,274,432	50,914,566	63,507,285
	$ 84,427,569	$ 71,092,408	$ 155,519,977	$ 194,912,241
Historical cost	$ 112,078,487	$ 94,731,342	$ 260,813,402	$ 191,959,978

4. Contractual obligations:

The Trusts have entered into a number of project grant contracts as at March 31, 2009 for the future funding of research projects to be completed subsequent to the year end.

These contractual obligations are funded in instalments and payments are due based on conditions included in the contract being satisfied. As such, no liability has been accrued in the financial statements as the Trusts are not liable until these conditions have been met.

The research project contractual obligations of Northern Boundary are $1,927,161 (2008 - $2,490,427) and of the Southern Boundary are $1,807,126 (2008 - $1,863,528) as at March 31, 2009.

5. Minimum fund balances:

In line with Chapter IX – 'Financial Regulations' Section F of the Pacific Salmon Commission By-laws, the total expenditures of the Trusts should not exceed the total income from the Principal. The Principal was the amount provided at the point of constitution of the Trusts and was US $74,837,400 from the Government of the United States of America and CAD $250,000 from the Government of Canada in the Northern Boundary and US $64,902,400 from the Government of the United States of America and CAD $250,000 from the Government of Canada in the Southern Boundary. As at March 31, 2009, the Northern and Southern Funds were below the minimum fund balances.

6. Administrative services:

The Commission charges fees for administrative services to the Trusts representing an allocation of Commission salaries and benefits expenses incurred on behalf of the Trusts.

7. Capital disclosures:

The Trusts' capital consists of their fund balances. The Trusts objective when managing capital is to safeguard their assets and to ensure that adequate capital is managed for future requirements. The procedures in place to achieve these goals include establishing effective internal controls, the review and approval of annual budgets and ongoing review of interim financial statements by the board of directors.

Appendices

Appendix A

Northern Fund Projects for 2008/2009

No.	Activity	Title	Proponent	Org	US & CAN Total $ Approved
		11 ENHANCEMENT			
1	Enh	Lakelse Lake fry outplanting project Year 3	Miller	DFO	$ 75,000
2	Enh	Trapper Lake sockeye Access Improvement - 2008 program year	Mercer	Consultant	$ 66,500
3	Enh	Tatsamenie Lake Extended Rearing	Mercer	Consultant	$ 120,000
4	Enh	McLoughlin Hatchery one million chum production increase	MacLaurin	DFO	$ 45,119
5	Enh	Snootli Hatchery Chinook Augmentation	Hilland	DFO	$ 67,237
6	Enh	Tuya River Harvest Design	Etherton	DFO	$ 240,000
7	Enh	Determining Trend of Chum Population Dynamics & Measuring Small Hatcheries Success (Year 3)	Lemon	ORRA	$ 41,483
8	Enh	Sockeye outplanting to Hanging Lakes. Initial sockeye outplanting	Picard	GDC	$ 189,295
9	Enh	Snootli Hatchery Infrastructure Upgrade	Hilland	DFO	$ 163,000
10	Enh	Transboundary enhancement feasibility study	Erhardt	Consultant	$ 135,651
11	Enh	Feasibility study for enhancing Nass chinook and developemnt of low tech facility at Tseax	Stephens	Nisga'a	$ 103,877
					$ 1,247,162
		9 HABITAT			
1	Hab	Marx Creek Rehabilitation - Phase III (Spawning Channel Construction)	Tisler	USDA	$ 300,000
2	Hab	Marx Creek Monitoring	Martinsen	NOAA	$ 39,023
3	Hab	Trapper Lake Barrier Modification - 2008 program year	Mercer	Consultant	$ 178,725
4	Hab	Artnarko Spawning Channel Flow Restoration	Oborne	Consultant	$ 140,354
5	Hab	Kitwanga sockeye spawning habitat improvement assessment	Cleveland	GFA	$ 25,000
6	Hab	Big Boulder Creek Restoration and Monitoring	Seward	TWC	$ 66,287
7	Hab	Exchamsiks Backchannel Rehabilitation	Gottesfeld	SFC	$ 403,260
8	Hab	Lakelse lake Program. Spawning Channel Improved Spawning Habitat	Miller	DFO	$ 60,980
9	Hab	Bulkley Kispiox River agricultural stream restoration seed funding	France	BCCA	$ 25,000
					$ 1,238,629
		36 IMPROVED INFORMATION			
1	Inf	Habitat-Based Chinook Escapement Goal Calibration: Clear rivers in northern BC	Winther	DFO	$ 48,100
2	Inf	Stock composition of Stikine and Taku chinook and sockeye in-river fisheries	Johnston	DFO	$ 44,297
3	Inf	Transboundary chinook and sockeye DNA stock ID baseline sample collection	Johnston	DFO	$ 86,472
4	Inf	Deena Coho Indicator Stock Equipment Upgrade	Katinic	HFP	$ 13,500
5	Inf	Stikine River field camp facilities	Etherton	DFO	$ 60,000
6	Inf	Analysis of Stikine River coho salmon coded wire tag (CWT) application & recovery data, 2000-2007	Smith	LGL	$ 33,071
7	Inf	Assessing the ability of paleolimnological records to further current understanding of trends	MacDuffee	RCF	$ 15,250
8	Inf	Nekite River Adult Chum Enumeration	Stevenson	RSSEPS	$ 30,000
9	Inf	Chickamin River Chinook Salmon Escapement Sampling	Johnson	ADFG	$ 105,100
10	Inf	Chilkat River Chinook Salmon Coded Wire Tagging	Chapell	ADFG	$ 114,749
11	Inf	Electronic Data Collection Equipment	Josephson	ADFG	$ 26,105
12	Inf	Northern and Transboundary sockeye matched scale-tissue sampling	Berg	ADFG	$ 202,808
13	Inf	McDonald Lake Sockeye Escapement Estimate	Heinl	ADFG	$ 102,491
14	Inf	Estmating the chinook salmon stock composition of SEAK fisheries 2009	Templin	ADFG	$ 280,264
15	Inf	Developing baselines for Chinook and sockeye salmon genetic stock identification	Templin	ADFG	$ 300,000
16	Inf	Kitwanga River smolt fence completion	Kingston	GFA	$ 30,000
17	Inf	Kitwanga River sockeye salmon enumeration 2008	Cleveland	GFA	$ 25,000
18	Inf	Population estimate for Alsek River chinook, sockeye 2007/2008 using GSI	Waugh	DFO	$ 10,000
19	Inf	Upper Skeena chinook radio telemetry feasibility study	Gottesfeld/English	SFC/LGL	$ 150,000
20	Inf	Morice chinook CWT group	O'Neil	TCSSES	$ 63,000
21	Inf	Development of thermal mark data sharing methods	Hein	DFO	$ 70,000
22	Inf	Increase Southern BC indicator stock CWT to improve quality of chinook indicator stock analyses	Parken	DFO	$ 76,055
23	Inf	Skeena River Steelhead Genetics	Beere	MoE	$ 22,000
24	Inf	Recreational Chinook Creel Survey	Reagan	DFO	$ 115,000
25	Inf	Forecasting pink salmon abundance in SEAK from juvenile salmon catches and associated	Wertheimer	NOAA	$ 77,960
26	Inf	Genetic changes associated with in-basin supplementation of a population of sockeye	Smoker	UA	$ 131,000
27	Inf	Transboundary Rivers salmon plan and gap analysis	Caulfield	Consultant	$ 67,504
28	Inf	CWT, genetic & spawner escapement information to improve spawning abundance estimation	Chamberlain	DFO	$ 24,400
29	Inf	BC North Coast sockeye lakes hydroacoustic surveys	Gottesfeld	SFC	$ 47,853
30	Inf	Northern Boundary Area sockeye genetic stock ID	Wilmot	NOAA	$ 175,600
31	Inf	Installation of Slamgeesh smolt trap	Hall	GWA	$ 32,763
32	Inf	Analysis of Alsek River sockeye salmon radiotelemetry data collected from 2001 to 2003	Smith	LGL	$ 44,500
33	Inf	Middle Nass mark-rate sampling for Nass coho. Seaskinnish weir. Year 2	Stephens	Nisga'a	$ 74,782
34	Inf	Thermal Mark Recovery Validation	Van Kirk	ADFG	$ 61,396
35	Inf	Expand and refine the GAPS chinook database to support GSI - SOUTHERN FUND COPY	Moran	NOAA	$ 45,770
36	Inf	Rivers Inlet coho enhancement	MacLaurin	DFO	$ 40,000
					$ 2,846,790
		3 ON-GOING PROJECTS			
1	Inf	Taku River coho salmon escapement & smolt tagging augmentation	Boyce	DFO	$ 44,000
2	Inf	Taku River coho salmon escapement & smolt tagging augmentation	Jones	ADFG	$ 75,000
3	Inf	Stikine River chinook & coho CWT augmentation	Etherton	DFO	$ 70,000
					$ 189,000
					$ 5,521,581

Appendix B

Southern Fund Projects for 2008/2009

Description	Proponent	Org	Area	Total $ Approved
Improved Information				
Expand and refine the GAPS Chinook database to support Genetic Stock Identification Studies relevar	Moran	NOAA	SEF	$ 91,537
Optimal Allocation of Chinook Stock Assessment Funding	Scott	WDFW	PS	$ 99,874
Detecting and enumerating outmigrating sockeye salmon smolts with a DIDSON imaging sonar syster	Holmes	DFO	FR	$ 40,450
Allele ladder-based standardization of existing coho microsatellite data and implementation in the GAF	Moran	NOAA	SEF	$ 132,000
The Origin of Marked-Untagged Chinook Found in the Skagit River Spawning Grounds	Hawkins	WDFW	PS	$ 10,813
Workshops that review the results of scientific studies relating to late run sockeye salmon and the pos	Beamish	DFO	FR	$ 50,000
Use of PIT tags to determine upstream migratory timing and survival of Columbia Basin sockeye salmc	Fryer	CRITFC	COL	$ 19,638
Full Parental Genotyping as an Identification Tool in Mixed Fishery Analysis: Test of Concept on Close	Busack	WDFW	PS	$ 220,500
Chinook Baseline Expansion with SNP Markers	Stephenson	CRITFC	COL	$ 78,200
Nanaimo River Chinook, Surrogate for Lower Georgia Strait Chinook Indicator	Banks	NRES	GB	$ 29,950
Sampling and processing of Chinook Double Index CWT recoveries in southern BC commercial fisherie	Fraser	DFO	WCVI GB	$ 36,460
Habitat-Based Chinook Escapement Goal Calibration: large, clear rivers and large, low visibility rivers	Chamberlain	DFO	FR	$ 20,080
Assessment of Thompson River Coho Stock Distribution in North Puget Sound Fisheries	Kirby	NWIFC	PS	$ 84,658
Coho FRAM Validation	Tompkins	DFO	SEF	$ 40,000
Development of a SNP genetic baseline for Chinook populations in Puget Sound	Warheit	WDFW	PS	$ 99,084
Development of baselines for salmon stock identification	Beacham	DFO	BC	$ 150,000
SNP Development and Lab Infrastructure Support for Genetic Stock ID	Narum	CRITFC	COL	$ 98,900
Improvements to the Harrison River Chinook key stream program: an alternative release strategy for ha	McNicol	DFO	FR	$ 41,000
Study Area Chum Stock Distribution Assessment in Washington San Juan Islands - Pt. Roberts and i	Kirby	NWIFC	PS	$ 70,376
Estimates of the abundance of hatchery chinook in wild spawning populations	Dobson	DFO	WCVI	$ 64,000
Assessing growth and survival of juvenile Chinook and coho salmon off the West coast of Vancouver Is	Beckman	NOAA	WCVI	$ 45,750
Predicting the magnitude and timeline of climate change effects on spawning migration success for ma	Patterson	DFO	FR	$ 65,000
A prototype seal deterrence system for application to a salmon gillnet (Fraser River Panel Test Fishery	Forrest	PSC	FR	$ 175,000
Genomic and physiologic predictors of condition of returning adult Chinook salmon (Oncorhynchus tsh	Ross	DFO	GB	$ 44,000
Increase Southern BC indicator stock coded-wire tagging to improve the quality of Chinook and coho ir	Parken	DFO	GB FR	$ 44,000
Ocean harvest real-time forecasts of summer and fall Chinook salmon (Oncorhynchus tshawytscha) re	Hyun	CRITFC	COL	$ 49,857
Implement a live capture and tagging facility for salmon and steelhead at Mission and in the Fraser car	English	LGL	FR	$ 323,337
OSCURS for the 21st century: A Data-driven Operational Numerical Model for the Pre-season Predictic	Thomson	DFO	FR	$ 85,000
Collection of DNA Based Stock Composition Data - WCVI Chinook Troll Fishery	Dobson	DFO	WCVI	$ 191,000
A feasibility study on estimation of offshore salmon flux using stationary hydroacoustic sub-sampling n	Xie	PSC	FR	$ 99,526
Light Grey - US based projects				$ 2,599,990
Dark Grey - Canadian based projects				
Habitat and Enhancement				
Nicola Basin Stream Flow Recovery & development of in-stream flow requirements	Hallinan	FBC	GB	$ 80,500
DNA Sampling of 2008 Brood Stock Used for the Recovery of Cultus Lake Sockeye	Latham	DFO	FR	$ 12,168
A quantitative model for risk-assessment and management of aquatic invasive species	Peterman	SFU	FR	$ 23,363
Optimizing the production of chinook salmon in the Strait of Georgia as the ecosystem changes	Beamish	DFO	GB	$ 135,580
Stage-specific growth and survival during early marine life of Puget Sound Chinook salmon in the conte	Beauchamp	UW	PS	$ 80,000
Dry Slough Estuary Function Restoration Design	Slocum	SKD	PS	$ 45,726
Cowichan Lake Outlet Pilot Spawning Gravel Placements	Craig	BCCF	GB	$ 25,000
Cowichan River 70.2 Mile Trestle Side-Channel Reconstruction	Craig	BCCF	GB	$ 30,000
Camp Gilead Off-Channel Habitat Reconnection	Higgins	KCDNRP	PS	$ 50,000
Campbell River mainstem chinook enhancement - Year #4 of 6 year brood cycle	Herkes	TYBC	GB	$ 9,960
Bells Creek Restoration	Hansen	LN	PS	$ 20,000
Upper Adams Sockeye - Brood Year 2008 Fry Supplementation	Lofthouse	DFO	FR	$ 101,200
Rosewall Creek Side Channel Assessment and Design	Ackinclose	FBES	GB	$ 27,120
Ashlu River Flats Restoration	Tobe	SRWS	GB	$ 78,000
Off-channel Habitat Restoration in the mid-Nicola River	Sampson	NTA	FR	$ 46,059
Early migration and rearing life histories for Coldwater River coho, chinook, and steelhead and the cont	Sampson	NTA	FR	$ 24,873
South Fork Nooksack River and Tributary Habitat Enhancement Project	Gray	NSEA	PS	$ 60,000
Evaluation of an Electric Barrier as a Seal Deterrent on the Puntledge River	Taccogna	DFO	GB	$ 167,633
Management of Invasive Perch in Forest Lake - Shuswap/Thompson Basin	Maricle	MoE	FR	$ 50,000
Predator Control to Enhance Sockeye Salmon Freshwater Survival in Cultus Lake	Connolly	AEGA	FR	$ 76,500
South Fork Nooksack Chinook Supplementation: Genetic Analysis and Rearing	Hawkins	WDFW	PS	$ 193,244
Millstone River Flow Augmentation - Westwood Lake Storage Implementation	Craig	BCCF	GB	$ 50,059
Fraser River Colony Farm Estuary Restoration	Matahlija	NFSAS	FR	$ 38,000
Water Storage Feasibility on East Coast Vancouver Island – Year 2	Craig	BCCF	GB	$ 30,000
Impact of growing sea lion populations on the ocean survival and productivity of west coast salmon	Olesiuk	DFO	SEF	$ 90,000
Light Grey - US based projects				$ 1,544,985
Dark Grey - Canadian based projects				
				$ 4,144,975

Appendix C

Appointment of Officers for 2008/2009

Effective December 1, 2008 a new slate of officers for the Pacific Salmon Commission was identified as follows:

OFFICE	COUNTRY	REPRESENTATIVE
Commission Chair	Can	Paul Sprout
Commission Vice-Chair	U.S.	David Bedford
Fraser River Panel Chair	Can	Paul Ryall
Fraser River Panel Vice-Chair	U.S.	Lorraine Loomis
Northern Panel Chair	Can	Seigi Kriegl
Northern Panel Vice-Chair	U.S.	Gordon Williams
Southern Panel Chair	Can	Don Radford
Southern Panel Vice-Chair	U.S.	John Long
Transboundary Panel Chair	Can	Frank Quinn
Transboundary Panel Vice-Chair	U.S.	Dr. John H. Clark
Stan. Comm. on F&A - Chair	Can	Paul Macgillivray
Stan. Comm. on F&A - Vice-Chair	U.S.	W. Ron Allen
Stan. Comm. on Scientific Cooperation - Chair	U.S.	Steve Pennoyer
Stan. Comm. on Scientific Cooperation - Vice-Chair	Can	Dr. Laura Richards
Technical Committee on Data Sharing - Co-Chair	Can	Chuck Parken
Technical Committee on Data Sharing - Co-Chair	U.S.	Dr. Norma Jean Sands
Fraser River Panel Technical Committee - Co-Chair	Can	Ann-Marie Huang
Fraser River Panel Technical Committee - Co-Chair	U.S.	Gary Graves
Northern Boundary Technical Committee - Co-Chair	Can	David Peacock
Northern Boundary Technical Committee - Co-Chair	U.S.	Glen Oliver
Transboundary Technical Committee - Co-Chair	Can	Sandy Johnson
Transboundary Technical Committee - Co-Chair	U.S.	Scott Kelly
Enhancement Subcommittee of the Transboundary Technical Committee - Co-Chair	Can	Doug Lofthouse
Enhancement Subcommittee of the Transboundary Technical Committee - Co-Chair	U.S.	Ron Josephson
Joint Technical Committee on Chinook - Co-Chair	Can	Dr. Rick McNicol/ Chuck Parken
Joint Technical Committee on Chinook - Co-Chair	U.S.	John Carlile
Joint Technical Committee on Coho - Co-Chair	Can	TBA
Joint Technical Committee on Coho - Co-Chair	U.S.	Dr. Gary Morishima
Joint Technical Committee on Chum - Co-Chair	Can	Leroy Hop Wo
Joint Technical Committee on Chum - Co-Chair	U.S.	Nick Lampsakis
Selective Fishery Evaluation Committee - Co-Chair	Can	Dr. Brent Hargreaves/ Gayle Brown
Selective Fishery Evaluation Committee - Co-Chair	U.S.	Dr. Gary Morishima

Appendix D

Approved Budget FY 2009/2010

APPROVED BUDGET 2009/2010

1	INCOME	
A.	Contribution from Canada	$1,747,510
B.	Contribution from U.S.	$1,747,510
	Sub total	$3,495,020
C.	Carry-over from 2008/2009	$318,312
D.	Interest	$18,000
E.	Other income	$0
F.	Total Income	$3,831,332
2	EXPENDITURES	
A.	1. Permanent Salaries and Benefits	$2,579,906
	2. Temporary Salaries and Benefits	$243,863
	3. Total Salaries and Benefits	$2,823,769
B.	Travel	$142,930
C.	Rents, Communications, Utilities	$150,104
D.	Printing and Publications	$21,500
E.	Contractual Services	$515,191
F.	Supplies and Materials	$51,429
G.	Equipment	$126,409
H.	Total Expenditures	$3,831,332
3	BALANCE (DEFICIT)	$0

Appendix E

Pacific Salmon Commission Secretariat Staff as of March 31, 2009

EXECUTIVE OFFICE

Don Kowal
Executive Secretary

Teri Tarita
Records Administrator/Librarian

Kimberly Bartlett
Secretary

Vicki Ryall
Meeting Planner

Kathy Mulholland
Information Technology Manager

Sandie Gibson
Information Technology Support Specialist

FINANCE & ADMINISTRATION

Kenneth N. Medlock
Controller

Angus Mackay
Fund Manager

Bonnie Dalziel
Accountant

Victor Keong
Program Assistant Restoration & Enhancement Funds

FISHERY MANAGEMENT

Mike Lapointe
Chief Biologist

Catherine Michielsens
Quantitative Biologist

Ian Guthrie
Head, Stock Identification Group

Steve Latham
Stock Idendtification Biologist, Sockeye

Bruce White
Stock Identification Biologist, Pinks

Zac Semeniuk
Salmon Technician

Keith Forrest
Test Fishing Biologist

Maxine Forrest
Senior Scale Analyst

Julie Sellars
Assistant Scale Analyst

Holly Anozie
Scale Lab Assistant

Jim Cave
Head, Stock Monitoring Group

Yunbo Xie
Hydroacoustics Scientist

Andrew Gray
Hydroacoustics Biologist

Fiona Martens
Hydroacoustic Technician

Jacqueline Nelitz
Hydroacoustic Technician

Appendix F

Membership Lists for Standing Committees, Panels, Joint Technical Committees and other Appointments as of March 31, 2009

1. STANDING COMMITTEE ON FINANCE AND ADMINISTRATION

Mr. Paul Macgillivray (Chair)
Mr. Ron Faust
Mr. Corey Jackson
Mr. Tim Young
Mr. W. Ron Allen(Vice-Chair)
Mr. David Bedford
Mr. Dave Cantillon
Mr. Roy Elicker
Ms. Natalie Howard
Mr. Mike Matylewich

Staff

Mr. Don Kowal (ex. Officio)

Editorial Board

Mr. Tim Young
Mr. Dave Cantillon (acting)

Staff

Mr. Don Kowal (ex. Officio)

2. FRASER PANEL

Mr. Paul Ryall (Chair, until March 2009)
Mr. Barry Rosenberger (Chair, as of March 2009)
Mr. Mike Griswold
Chief Ken Malloway
Mr. Rob Morley
Mr. John Murray
Mr. Larry Wick
Ms. Lorraine Loomis (Vice-Chair)
Mr. Kyle Adicks
Mr. Robert F. Kehoe
Ms. Lorraine Loomis
Mr. Tim Tynan

FRASER RIVER PANEL - ALTERNATES

Mr. Brian Assu
Mr. Tom Bird
Mr. Randy Brahniuk
Mr. Les Rombough
Mr. Peter Sakich
Mr. Marcel Shepert
Mr. Dave Cantillon
Mr. Ronald G. Charles
Mr. Jack R. Giard
Mr. John Long

3. SOUTHERN PANEL

Mr. Don Radford (Chair)
Mr. Ken Connolly
Mr. Don Hall
Mr. John Legate
Mr. Jeremy Maynard
Mr. Paul Rickard

Mr. John Long (Vice-Chair)
Mr. Burnie Bohn
Mr. Larry Carpenter
Mr. Peter Dygert
Mr. James E. Harp
Mr. Terry R. Williams

SOUTHERN PANEL - ALTERNATES

Mr. Rod Cootes
Mr. Les Jantz
Ms. Marilyn Murphy
Mr. Bill Pirie
Mr. Errol Sam

Mr. Ron Boyce
Mr. Patrick Pattillo
Mr. Randy Settler
Dr. Brad Thompson
Mr. Andy Whitener
Mr. Keith Wilkinson

4. NORTHERN PANEL

Mr. Seigi Kriegl (Chair)
Mr. Chris Barnes
Mr. Chris Cue
Mr. Bill de Greef
Mr. John McCulloch
Ms. Joy Thorkelson

Mr. Gordon Williams (Vice-Chair)
Mr. William F. Auger
Mr. Peter Hagen
Mr. Howard Pendell
Mr. Russell Thomas
Mr. Robert M. Thorstenson

NORTHERN PANEL - ALTERNATES

Mr. Dave Einarson
Mr. Rick Haugan
Ms. Pat Moss
Chief Harry Nyce Sr.
Mr. Tom Protheroe

Mr. John Carle
Mr. Mitchell Eide
Mr. Arnold Enge
Mr. Brian Frenette
Mr. Dennis Longstreth

5. TRANSBOUNDARY PANEL

Mr. Frank Quinn (Chair)
Ms. Cheri Frocklage
Ms. Louise Gordon
Ms. Jennifer Gould
Ms. Nancy Kendel
Ms. Linaya Workman

Dr. John H. Clark (Vice-Chair)
Mr. James Becker
Mr. Rod Brown
Mr. Arnold Enge
Mr. Gary Gray
Dr. Peter Hagen
Ms. Dale A. Kelley

6. STANDING COMMITTEE ON SCIENTIFIC COOPERATION

Dr. Laura Richards (Vice-Chair)
Dr. Dick Beamish

Mr. Steve Pennoyer (Chair)
Dr. David Hankin

7. NORTHERN FUND COMMITTEE

Mr. Siegi Kriegl (Co-Chair)
Mr. Ron Fowler
Mr. Frank Quinn

Mr. Doug Mecum (Acting Co-Chair)
Mr. James E. Bacon
Mr. David Bedford

8. SOUTHERN FUND COMMITTEE

Mr. Don Radford (Co-Chair)
Dr. Don Hall
Mr. Mike Griswold

Mr. Larry Peck
Mr. Olney Patt Jr.
Mr. Larry Rutter

9. JOINT TECHNICAL COMMITTEE ON CHINOOK

Mr. Chuck Parken (Co-Chair)
Mr. Richard Bailey
Dr. Gayle Brown
Ms. Diana Dobson
Mr. Roger Dunlop
Ms. Dawn Lewis
Ms. Teresa Ryan
Mr. Julian Sturhahn
Dr. Arlene Tompkins
Mr. Ivan Winther
Mr. Howie Wright

Mr. John Carlile (Co-Chair)
Dr. Marianna Alexandersdottir
Mr. David Bernard
Mr. Ryan Briscoe
Dr. John H. Clark
Mr. Ethan Clemons
Mr. Gary R. Freitag
Mr. Edgar Jones
Dr. Robert Kope
Mr. Larry LaVoy
Mr. Yong-Woo Lee
Mr. Brian Lynch
Ms. Marianne McClure
Mr. Scott McPherson
Dr. Gary S. Morishima
Mr. James F. Packer
Mr. Rishi Sharma
Mr. William Templin
Dr. Ken Warheit
Mr. Alex C. Wertheimer
Mr. Henry J. Yuen

10. JOINT TECHNICAL COMMITTEE ON COHO

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Mr. Steve Ballie
Mr. Michael Chamberlain
Mr. Wilf Luedke

Dr. Gary S. Morishima (Co-Chair)
Ms. Carrie Cook-Tabor
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Mr. Robert A. Hayman
Mr. Jeff Haymes
Dr. Peter W. Lawson
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Mr. James B. Scott
Ms. Laurie Weitkamp

(Northern Coho)

Dr. John H. Clark
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Mr. Leon D. Shaul

11. JOINT TECHNICAL COMMITTEE ON CHUM

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Ms. Sue Grant
Ms. Melanie Sullivan
Mr. Joe Tadey
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12. TECHNICAL COMMITTEE ON DATA SHARING

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Ms. Roberta Cook
Ms. Kathryn Fraser

Dr. Norma Jean Sands (Co-Chair)
Mr. P. Brodie Cox
Mr. Ron Josephson
Mr. Mike Matylewich
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Mr. George Nandor
Mrs. Amy Seiders

Working Group on Data Standards

Ms. Kathryn Fraser
Ms. Brenda Ridgway

Mr. Timothy Frawley
Dr. H. Mark Engelking
Ms. Susan Markey
Mr. George Nander
Mr. Ken Phillipson

13. FRASER RIVER PANEL TECHNICAL COMMITTEE

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Ms. Sue Grant
Ms. Beth Pechter
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14. NORTHERN BOUNDARY TECHNICAL COMMITTEE

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Mr. Dana Atagi
Mr. Steve Cox-Rogers
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Mr. Mark Potyrala

Mr. Glen Oliver (Co-Chair)
Mr. William Heard
Mr. Steve Heinl
Ms. Michelle Masuda
Mr. Bo Meredith
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15. SELECTIVE FISHERY EVALUATION COMMITTEE

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Mr. Kirt Hughes
Mr. Ken Johnson
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Dr. Kristen Ryding
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17. JOINT CHINOOK INTERFACE GROUP

Mr. Gerry Kristianson (Co-Chair)
Mr. Ron Fowler
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Dr. Jeffrey P. Koenings (Co-Chair)
Mr. David Bedford
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18. NATIONAL CORRESPONDENTS

Mr. Corey Jackson

Mr. Dave Cantillon (acting)